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THE PARENTS' ASSOCIATION OF THE SCHOOL OF EDUCATION[1]

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This association, so far as I know its history, was formed in 1903. There were at that time two associations known as parents' associations, one connected with the Laboratory School, and the other with the Elementary School of the University of Chicago. The earliest association, of which I shall speak—that of the Laboratory School—which is now a constituent part of this one, was intimately connected with elementary education in the University almost from the beginning. I speak of this one more fully than of the other because better acquainted with it, and I shall leave someone else, with more complete knowledge than I have, to bring the other one into proper relation with the present organization. I should say it was in the early 90's that Dr. Dewey conceived the idea of an elementary laboratory school which should be almost wholly experimental in its nature, and in connection with which he might work out some notions relative to pedagogy. Dr. Harper once told me that this school was instituted upon the basis of an expenditure of at most $1,000 or $1,200, and I think that at the time I first became acquainted with the school it had not more than twenty or thirty children in attendance and those, of course, in the very first grades. The first sessions of this little school were held in a few rented rooms

[1] President's address before the Parents' Association of the School of Education of the University of Chicago, November 18, 1909.

for a time; a little later, on account of the increase in numbers, it was removed to a rather large dwelling-house on Ellis Avenue. During this time the school was known as the Elementary School of the University of Chicago. Shortly after the year 1900 what was commonly called the Blaine School with its elementary department was brought over from the North Side, together with its excellent faculty and its forceful and resourceful leader, Colonel Parker. At about the same time the South Side Academy and the Chicago Manual Training School joined the procession. From that time the School of Education began to take shape, and its elementary department took the name of the Elementary School of the University of Chicago, the entire School of Education being then under the leadership of Colonel Parker. At this juncture a somewhat delicate question arose as to whether or not the little school of a hundred or more children on Ellis Avenue should or could maintain a separate existence. This was finally resolved in favor of continuing the school for a time at least and until certain expected results, wholly educational, might be reached. The school then took on the name of the Laboratory School of the University of Chicago, and was supported, I think wholly, and I know very largely, by private subscription during the school years of 1901–2 and 1902–3. The death of Colonel Parker at that time resulted in Dr. Dewey being made director of the School of Education, and also resulted in the Laboratory School uniting with the Elementary School; out of this junction and the uniting of the Manual Training School with the South Side Academy as the University High School arose the present parents' association. It will thus readily be seen that in their inception the earlier parents' associations were as elementary as the schools were.

Now to go back to the little school begun in the early 90's. The methods of its teachings were not very well understood by other than the psychologists and philosophers of pedagogy. The ideas underlying the methods were even less understood than the methods themselves. By many they were deemed freakish and by all unusual. The generation of grown-up persons of that day had in their youth known no method of acquiring knowledge

except from one in authority. It was a sort of fiat knowledge, enforced by vigorous language, if nothing worse, and the idea of acquisition because of the pleasure of acquisition was entertained by few, and I think I may say had been assimilated by none. Attractiveness of presentation and the sweet reasonableness of learning for its own sake were as unknown to the youth of my day as the *macropetalichthys,* and him or it we did not know at all. A lesson was a task, and worse than all it was called a task; and the taskmaster was the schoolmaster. Words are little things, but they do sometimes picture a situation. Wisdom's ways were not always ways of pleasantness, nor were all her paths paths of peace. In the days of which I speak schooling was a preparation for life as sharpening the sword was a preparation for battle. It was not life itself, and was scarcely any part of it. And here I think was the parting of the ways. But we did not know much about the new way. It had never occurred to many, I think, that the school life of a child was part of the sum total of all life, with its sunshine and its showers, its social and emotional, its intellectual and physical enjoyments, all in the budding, perhaps one may say, but all as real to these young people as were or are the weightier affairs of life that fall upon their elders. This was, in very brief outline, a new thought, and here were all these precious possibilities to be drawn out, guided, and perfected, to the end that there might be unity of the whole life and that no sudden hiatus might intervene between the preparation for and the undertaking of life's occupations. As I have said before, we knew little of these things; and so there were installed very early in the history of this little school what were known as mothers' meetings, held in the afternoons of certain days of the week. These mothers were learning the ways of the school as well as its necessities. In the very early days the groups were so small as to give little social life, but the mothers were learning and helping; were seeing results and believing in them; were directing social advance along the lines of democracy and simplicity, and were justifying to themselves the conceptions of Dr. Dewey's well-ordered mind. To paraphrase Webster in the great Dartmouth College case: It was

a small school, but there were those who loved it. And for the purpose of accomplishing these things, and for the purpose of ascertaining and furnishing, so far as might be, the necessary funds and equipment, the parents' association of which I speak was first formed and organized in the Ellis Avenue school in 1901. Of the work of that association I need say but little, except that this was really a formative period in which the parents were partaking largely of the lives of their children and learning their necessities.

As you will see from a glance at the present calendar this association which is now in existence was formed in the year 1903. It was very early seen and believed by the parents that if this present school was to be a school simply and nothing else, was to be like other schools and not different, there was no reason for its existence. Committees were formed for the purpose of expressing and carrying out the ideas of the parents with reference particularly to the social life of the children. The association very early in its history became rather well known over the entire educational world, better known, I think, in foreign countries and other states than at home. I have been asked to explain the workings of this association upon the banks of the Thames, the banks of the Seine, and the shores of the Bodensee. One officer of this association has been asked to address an educational congress in Belgium, and the Argentine Republic has asked for a complete set of its literature. I think I may say, however, without violating any confidence, that the fame of the association has far outstripped its achievements; but nevertheless it has achieved something. In the very first year of its organization it submitted in writing to the dean the views of the high-school committees with reference to certain things as follows. I quote:

> 1. We urge the building, at the earliest date possible of a students' clubhouse and the development of genuine club life. Until this is done we ask for the setting apart of several rooms in the present building for this purpose, and we offer to assist in fitting them up and caring for them properly. We urge that this club idea be developed in the spirit of true democracy, with freedom of forming and leaving groups of friends and under the becoming supervision of the faculty.

I am glad to report to you that this has been done. The club-house itself has not been built, but the club idea has been fostered, and there has been, and I believe there is now, a flourishing boys' club being conducted along the lines laid down.

2. We urge the institution and development of many clubs of special interest, debating, literary, musical, art, dancing, outing, etc. We ask that these interests be frequently presented to students in public assemblies and their social side made attractive. We hereby offer to assist in finding money, meeting-places, and chaperones to begin and carry on this work.

I am glad to report to you that many of these things have been done. There is a lively and flourishing debating-club. There have been musical clubs of various sorts, and still are. There have been dancing-clubs and other organizations, and still are. There have been outing-clubs for taking cross-country walks and such things, but this is a matter which should be further developed.

As to the other part—the offer to assist in finding money—I am glad to say to you that through the social fund the parents contributed to the Elementary School during the last year: for dancing, $950; for special parties, $70; for grade parties, $50; for the spring festival, $80; and to the High School: for the *University High School Daily*, $750; for a teacher of dancing, $600; for music, $100; for the dramatic club, $50; for the debating-club, $150; for the purpose of parties, $200; and for athletics, $900; thus fulfilling splendidly the offer made in the first year of this association to furnish funds in whole or in part for the activities urged upon the faculties of these schools.

3. We offer to conduct many social parties at our houses during the season and so to co-operate that all students may be reached. We ask the authorities to regard this as a part of their interest, to advise with us as to the best methods of doing it and of how to make it satisfy the social needs of the students.

4. We urge the continuation and development of the afternoon school parties and dances. We rejoice in their simplicity and informality. We suggest the division of their attendance into several groups so as to throw together those of similar ages and interests.

5. We urge the school not to permit the formation of formal fraternities and societies, because the social good they accomplish is bought at too high a price in waste of time, in social fixation, and in the creation of a

spirit of pride and a consequent damage to those who are not members, the prevention of freedom of social movement, and in the love of the school as a whole which is the first need of the young people.

These things, so recommended, have been to a large extent, if not wholly, accomplished, and so I think I may say that the Parents' Association has not been wholly devoid of achievement. There are other problems to be settled, and I hope that during this coming year the committees of this association will ascertain the things now most needed and that we may take up in some formal way their accomplishment. It may seem to some who have listened to this address that I regard the parents as the whole thing; but not so. We owe whatever we may have accomplished largely to the faithful directors and deans and the faithful faculties of the schools, many members of which have made places for themselves in the educational world, "not only in things written and said but by the arduous greatness of things done."

A REAL BASIS FOR LATIN COMPOSITION[1]

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The writing of Latin has fallen on somewhat evil days. Instead of the proud position which it once occupied and indeed which it continued to occupy for centuries, it has come to be hardly anything more than an adjunct to the study of the text —a drill in forms, vocabulary, and syntax. It may be said with truth, in this country at least, that teachers as a rule regard anything beyond this as impracticable and indeed not even worth the while.

Not only is Latin composition mainly a matter of drill, but in its subject-matter it is almost altogether dissociated from the pupil's life. Into the world which he creates out of his own experience, it does not enter; of it, it has virtually nothing to say. It deals especially with the things of which the learner knows only by hearsay, or with thoughts which come to him at second hand. Consider the vocabulary with which the beginner essays his first sentences into Latin. How remote are kings and queens and soldiers and swords and wars and battles, and even the much-talked-of Helvetians leaving their country with wives and children in search of fighting. Even when familiar objects are spoken of, they are transported to ancient times. The bridge, for example, is not the one which stands at the edge of the learner's own town or one which in holiday outing he has seen spanning a mountain stream, but it is a bridge over the Tiber, or the Rhine, or the Rhone. A little later the pupil is set to work on sentences which are translations or paraphrases of some Latin text, of which, perhaps, he knows nothing. I remember a sentence of this kind from the old Arnold: "Balbus and I raised our hands." I often wondered who Bal-

[1] A paper read at the University of California at the Conference of Classical Teachers for Northern California, July 2, 1909.

bus was and what reason "Balbus and I" had for raising "our hands," but I was destined not to know until I read the whole episode in one of Cicero's letters to Caesar concerning Trebatius. The context, however, may be known. In fact, in this country, since the publication of Collar's book on *Latin Composition* in 1889, the greater part of the work has been the retranslation of paraphrases of the Latin text which the pupil happened to be reading at the time. Whatever may be the merits or defects of this method of "basing the composition on the text," it has not brought the content of the work itself into any closer relation with the learner's actual life.

Latin composition has come also to be dissociated from the pupil's interest. This is due in some measure to the almost proverbial dulness of the composition books. Professor Brander Matthews is reported to have said of Swinburne, that the latter's ignorance of the Elizabethan drama must have been acquired: so much misinformation seemed hardly possible by the mere light of nature. One is reminded of this in looking over the composition books that come from the press. They are compact and business-like, and even scholarly, but usually of a dulness which, like the ignorance attributed to Swinburne, their authors must really have acquired.

This state of things has not come about by accident, but is the result of historical causes. We know that in the so-called Middle Ages the writing and speaking of Latin were of quite as much, if not of greater importance than the reading. The churchman, for example, might have comparatively little occasion to read; indeed, so far as the classical literature was concerned, the church herself often warned him away from that which had not already been lost. On the other hand he might at any time be required to write Latin or to speak it, and though the quality of his performance varied with time and place, he used the language as a living tongue for the expression of his own thoughts, and with a mastery which we may well envy. With the revival of learning and the recovery of the ancient literature, Latin continued to be the medium of communication for the intellectual and political worlds. Even in

the eighteenth century, in important fields, it was still the scholar's vernacular, and this was also to a great extent the case well on into the last century, to the first half of which belongs most of the work of that fine master of Latin style, Gottfried Hermann. A vivid illustration of this state of things may be found in the recently published *Life and Letters* of George Bancroft, the American historian, who tells in a letter to his father of his examination for the Doctor's degree at the University of Göttingen in 1820. The whole proceeding, including the translation and explanation of a large part of an ode of Pindar, was in Latin. A few days later he defended his thesis in public in a Latin oration. Another illustration might be drawn from the experience of Mommsen, to whom the Latin he learned and used in school became a second mother-tongue.

It has been said that it was in the revival of learning, with all the enthusiasm for the classical literature, that Latin really became a dead language. This statement of course refers to the fact that to this time in the writing of Latin belongs the anxious adherence to classical models, especially that of Cicero. This whole movement had in it the seeds of decay, not only because it aimed at what was bound to appear in the end as artificial and useless, but also because it tended to prevent the language from becoming the instrument of actual experience. In the decline of Latin writing we have also to take into account as a powerful influence the adaptation of modern languages to literary and scientific purposes, rendering the use of Latin more and more unnecessary. A third influence (which has not received the attention it deserves) has been that of philology itself. Toward the end of the eighteenth and the beginning of the nineteenth century, as we know, F. A. Wolf and his followers introduced a new conception of this science which has become increasingly dominant. Their idea, in a word, was that no subject of classical study (such as the Latin or Greek language) was to be regarded as an end in itself; it was to be a mere instrument for realizing the life of antiquity. Philology was to tear aside the veil and reveal to modern eyes men and women as they lived and moved in the ancient world,

and to this everything else was to be subordinated. The obvious result of this conception in the study of a language was to place the stress on reading and to diminish the importance hitherto attached to writing and speaking. Aside from practical considerations, hardly anything in the eyes of this theory could be less profitable than writing Latin for its own sake. All these influences have made themselves felt in the practice of the schools and have brought Latin composition to the subordinate and accessory position which we find it occupying today.

How can this position be improved? What seems to me to be needed in the first place is a change of attitude. The writing of Latin is not primarily a drill or the imitation of a text (with the foolish hope of absorbing its style); it is an exercise in learning how to express oneself in another language. As such, it is an end in itself, something intrinsically worth while. On this road the pupil may not go far (though this, of course, will depend), but whatever his progress may be, it will be real progress. In the meantime, he will have been engaged in a process whose value as an instrument of education is unquestioned.

If Latin composition is to become in any real way an exercise in self-expression, it is obvious that its material must be drawn from within the range of the pupil's experience. A rehashed Gallic War or Oration against Catiline will not serve our purpose; what we require is something which the pupil knows for himself or about which he has had his own thoughts. This is a large field, all of which we cannot hope to make use of; the question arises, To what part shall we turn our attention?

The answer depends on the kind of vocabulary which we purpose to employ. Is it well in the writing to have a separate vocabulary from the reading? If so, it is possible to begin with almost any phase of the pupil's environment. However, there are reasons (as we shall see) for connecting the composition with the reading, and for using the same vocabulary in both. The material then for translation into Latin may be such parts of the pupil's experience as can be expressed under this limitation.

It may be asked, can this be done at all? Is it possible to express facts and ideas of our everyday life by means of the words we find in Cicero and Caesar? It seems to me that it is not only possible, but that the full recognition of the fact ought to mark a turning-point in our teaching. The ancient world in its fundamental aspects was not so unlike our own; this fact makes it possible to adapt the language to corresponding contexts in our modern life. If we examine a chapter of Caesar we find that though the context be remote, the words themselves represent what is familiar, and that by taking them out of the relation in which the author placed them and by regarding them as so much raw material, as it were, it is possible to use them to express facts of our own environment. Thus *dare* and *accipere* are often met with in Caesar in connection with the giving and receiving of hostages, and *advenire* and *pervenire* to denote the arrival of Caesar or his army in some distant part of Gaul. For hostages we shall not have much use; *dare* and *accipere*, on the other hand, may be used of the giving and receiving of all sorts of familiar things, just as *advenire* and *pervenire* may indicate the arrival of all sorts of familiar persons. For another illustration take the intractable chaps. xxii and xxiii of Book II and consider how much material they contain for an account of a school excursion into the hills. It is, in fact, surprising how many things can be said without going outside of the vocabulary of the secondary authors.[2]

Let the teacher, then, having in mind a given vocabulary, make it the basis of exercises which shall embody phases of life familiar to the pupil—things relating to the family, the school, the town. When he begins a daily practice of this kind he will be in a fair way to solve the problem of Latin composition.

It will be found, so far as the pupil is concerned, that an exercise of this kind, instead of being a drudgery, has un-

[2] I have tried to show what can be accomplished in this respect in my *Book of Latin Prose Composition*, for the use of colleges and advanced classes in schools. Boston: Sanborn & Co., 1909. Professor Hale has used this method in his *First Latin Book*. Boston and Chicago: Atkinson, Mentzer & Grover, 1907.

failing interest from the mere fact that it is an exercise in self-expression. Its appeal is like that of drawing, or painting, or English composition; the product, as in those cases, has no particular artistic merit, but the fact that the pupil is attempting to translate a part of himself into a new medium gives to the process an unquestioned reality and vitality.

This method accomplishes far more than the old one in the mastery of forms and constructions. Not long since I saw a boy fishing, rod in hand, standing on the banks of a stream in the mountains, and heard him say to a companion, "I saw the old fisherman, and he said it was too windy for fishing." Suppose now that the boy on his return to school were concerned to translate this sentence (or one of a similar character) into Latin. What a glow of interest he would feel and what short work he would make of that somewhat difficult construction with *quam ut* in the second clause, not to speak of *ille* for the definite article in the first. This is only to illustrate the point that where the pupil has something to turn into Latin, which is interesting and real, the difficulties of grammar will soon vanish into thin air.

The difficulties of translation will also be lessened. We know that the significance a word has for the reader is built up of associations, but in a Latin sentence as a rule the pupil has no vital associations with the words. He learned them in the beginning in connection with the remote and uncertain things of ancient times, and they have remained more or less elusive, vague, and shadowy. It is not surprising that when combined in sentences they make slight and conflicting impressions, yielding but little meaning. But when these same words are used in writing to designate actual facts, he comes into living touch with them, and when he sees them again in a Latin text for translation, they have acquired a new meaning which in point of reality may approach that of the mother-tongue. This may be illustrated by the word *agmen,* which in its military sense the pupil often confuses with *acies,* having learned it in connection with the doubtful evolutions of Roman soldiers; but let him once apply it to a body of soldiers whom he has seen

marching in column through his own town, and the word will not only no longer give trouble, but will be full of significance in all its relations. In short, in language as in everything else, we must approach the ancient world through our experience of the modern one.

In putting this method into operation, the teacher may, as I have suggested, prepare his own exercises. What is really needed for practical purposes is a book written from this standpoint. Above all it should be an interesting book, with a keen, kindly, and humorous outlook on the world.

It is well at this time to re-examine all the traditions of our teaching. There is looming on the horizon a new educational philosophy. The old doctrine of *laissez faire,* still the official creed of our universities, having been found wanting in economics and politics, is destined to be superseded in education. In the new philosophy, education will be a conscious and directed process whose end is expertness in all the essential social relations. Before the bar of social utility every subject in the curriculum will have to answer. For classical studies this means a new test, which all those who love them must be prepared to meet.

THE FITCHBURG PLAN OF INDUSTRIAL EDUCATION

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Can the public schools of our country be so vitalized in purpose and methods that their graduates may be of immediate service to business men and to manufacturers, instead of necessitating two or three years more of special training in order properly to perform their duties? This is the question that is today agitating the educational and industrial world and causing the directors of educational effort to examine their curriculum and methods with unusual care and discrimination. The tremendous growth of our industrial plants and products, and the consequent competition of rival manufacturers are calling for a greater number of better-trained workers than the market can supply.

In the past, if a young man desired to learn a trade (which was considered to be a most laudable ambition) he started at the very bottom of the ladder. He swept out the office, ran errands, and did a thousand and one things which seemingly had little to do with learning the trade he intended to follow. Then he was promoted into the shop and was initiated into the mysteries of shop freemasonry to which every journeyman looks back with pleasant recollections, though at the time his companions saw the joke more readily than he. Gradually the disagreeable tasks gave way to the operating of the various machines, and, after four or five years of practice, the apprentice emerged a full-fledged journeyman, and according as he had "applied himself diligently to learning the secrets of the trade," as required in his apprenticeship papers, he became more or less proficient as a mechanic.

It was customary for the son of a mechanic to follow his father's occupation, and consequently the trades had a good

supply of help. But, as inventions increased the complexity of machinery and the mechanic saw the necessity of education, more of our boys went to school and in many cases, it is regrettable to say, also got the idea that the trades were less desirable as a means of earning a livelihood. To be dressed up and shine in society seems to be the aim of many of our boys under the present educational system.

With the improvement in machinery came the automatic operation of them, and the increase of jigs and special fixtures made it possible to use a lower grade of workman for their operation. Thus the lack of apprentices did not seriously hamper the shop production.

Then another factor, the automobile, came upon the scene. The manufacture of these took thousands of skilled workers without turning out any appreciable number of mechanics to compensate for the increased demand, and the problem of securing this help has become a serious matter for the whole country.

The public-school system as operated in the past has had as its goal the fitting of pupils for the colleges. Those who must by choice or necessity go to work at a trade had to take the same course of study as the boy who expected to become a lawyer or professional man.

Our manual-training schools tried in a measure to meet this objection, giving a certain amount of hand training, but as many wished to go to higher institutions the fitting of students for those institutions still constituted their main purpose. Then as a further step the trade school was inaugurated.

In this case the boys are given three or four years' instruction in certain trades such as foundry-work, carpentry, pattern-making, etc., under the supervision of men some of whom are practical journeymen. There is perhaps one journeyman for twenty or thirty boys, giving a cut-and-dried course. The work when completed is more often than not broken up and thrown away and the boys feel that it's only a piece of play-work anyhow. The pupil performs the various operations in a perfunctory manner and if, after spending five or six times as much labor on the work as is necessary, the work is spoiled he is told

to make another piece and so on until he gets it right. This method lacks the commercial aspect, the idea of work on something that is to be used for a purpose, and the feeling that it must be made right the first time.

In April, 1908, there was presented to the metal manufacturers at a meeting in New York City a plan which overcomes all of these objections. It is the plan of Professor Herman Schneider, dean of the University of Cincinnati. In connection with the engineering department of the university there has been inaugurated a system of co-operation between the shops of the city and the university, whereby the shop takes charge of the practical training of the students and the university teaches the theory. By this method the university is relieved of the necessity of equipping its laboratories with expensive machinery which in the course of ten or fifteen years may become obsolete, and the students are getting a practical training such as no school can possibly furnish. They are working in actual commercially operated plants, the hum of industry is on every hand, and push and go are necessary in order to hold one's place in the shop organization.

Mr. Daniel Simonds, President of the Simonds Manufacturing Co., and several other Fitchburg manufacturers were present at this meeting and the simplicity and practicability of the plan appealed to them immediately. Here was a method that could be adapted to high-school boys who wished to learn a trade and continue their education at the same time. A plan was drawn up by the manufacturers for a combination shop and school course and presented to the school authorities, offering the use of their shops for the practical instruction of apprentices if the school would provide the necessary collateral instruction. This the school agreed to do and the following manufacturers entered into the plan: The Simonds Manufacturing Co., manufacturers of saws and knives; the Fitchburg Steam Engine Co., manufacturers of steam engines; the Bath Grinder Co., manufacturers of grinding machinery; the Blake Steam Pump and Condenser Co., manufacturers of pumping machinery; the Cowdrey Machine Co., manufacturers of special and wood-working machin-

ery; the Putnam Machine Co., manufacturers of lathes, planers, railroad tools, and general machinery, and the Fitchburg Machine Co., manufacturers of the "Lo-Swing" lathe.

The course outlined is of four years' duration, the same as the regular high-school course. The first year is spent wholly in school and the next three alternate weekly between shop and school. The manufacturers take the boys in pairs so that by alternating they have one of the pair always at work, and, likewise the school is provided with one of the pair. Each Saturday morning the boy who has been at school that week goes to the shop in order to get hold of the job his mate is working on and be ready to take it up Monday morning when the shop boy goes into school for a week. Shop work consists of instruction in the operation of lathes, planers, drilling machines, bench and floor work, and such other machine work as the ability of the apprentice may allow. Boys receive pay for the weeks they are at work at these rates: For the first year, 10 cents an hour; the second year, 11 cents an hour; and the third year, 12½ cents an hour, making $5.50 a week or $165 for the first year; $6.05 a week, or $181.50 for the second year; and $6.78 a week, or $206.25 for the third year. This is a total of $552.75 for the three years. These rates are higher than the former apprentices have been receiving, the manufacturers having of their own accord raised the wages.

Here then is a strong inducement for the boy to continue in school: he can earn some money; in fact he gets more than he could get by going out and taking the ordinary jobs in stores or offices. Again, many parents cannot afford to keep their children in school under the usual conditions. This furnishes them an opportunity for contributing to their support and a chance to continue their education. During the past year one of our co-operative students was the only support of a family for several months. When there is a vacation week in school, work is provided in the shops so that the boy doesn't have to loaf around the streets with his hands in his pockets looking for mischief. These periods add to the amount of money I have just indicated as his yearly wage.

Every candidate is given a trial period of two months beginning immediately at the close of school in June, and if he likes the work and shows aptitude for the trade he takes the course, otherwise he drops out and, if he chooses, takes up some other course in the high school. Thus we give the boy an opportunity to find himself, something that has hitherto been lacking in our schools.

The question might be raised as to the physical strain of working a week in the shop with regular shop hours, for these boys have no special privileges in the shops, they are subject to all of the shop rules the same as the regular workmen. Not a single complaint has been made by the boys that the work is too hard, they come to school bright and active and the fact that they have the strength and ambition to enter the various track events discounts any fear in that direction.

What we believe to be a strong feature of this course is the agreement entered into by the boy and his employer. It is proverbial that the modern boy is a very unstable article; he tries this and that and is very loath to settle on one thing. Now after he has had a trial period of two months and is satisfied that he wants to learn a trade, his parents agree that he shall stick to it for three years, and the manufacturer on his part agrees to teach him the various branches of the trade designated in this agreement. It is a business contract and means something. I found, in a trip through the West the past summer, that only those places which had this written agreement between the apprentice and the employer had any success with their apprenticeship system.

What should be taught in such a course as this? Since the school term is only twenty weeks a year it is evident that only such subjects as are of practical value to the student in the pursuit of his livelihood, looking of course to advancement in that pursuit should be included. In fact that was the point insisted upon by the manufacturers, that this course be such as would make better mechanics, capable of advancing to the highest possibilities in the trade.

The work in *English,* given throughout the four years, includes forms of business papers, shop terms, and spelling.

The course in *current events and industrial history* includes a study of the daily happenings in the industrial world, the history of the iron industry, the factory system, labor problems, and new inventions, and the reading of mechanical journals.

The *mathematics* begins with simple propositions in mensuration, fractions, the metric system and circular measure. General shop mathematics deals with problems on cutting speeds and feeds, belting, gearing, strength of materials, and general cost figuring. Algebra is taken up to give facility in handling the formulae common in the trade journals and handbooks, and leads up to simple geometric and trigonometric formulae. The practice rather than the theory of mathematical science is sought.

In what we term *mechanism,* we treat of the construction and uses of the various machine tools that every shop contains. The names and uses of every part are learned in the school as well as in the shop. The reason for certain shapes of the various parts, kinds of material used in their construction, shapes and kinds of tools used and their cutting action are clearly pointed out in the analysis of the shop work.

In *physics* the study of working examples is emphasized rather than the theories of abstruse phenomena.

In *chemistry* we emphasize tests that can be ordinarily applied to fractured metals and the tempering processes.

Commercial geography comprehends the study of the source of supply of the various industries, preparation and methods of transportation, cost of materials, railway systems, waterways, etc.

First aid to the injured.—There is no place where accidents are more liable to happen than in the shop and some knowledge of how to care for them is a valuable asset to the workman. The textbook of the National First Aid Association is used for this study.

Drawing is the sign language of the mechanic. Almost invariably in explaining an object or piece of work he takes his

pencil and makes or attempts to make a drawing to make his remarks more vivid. Hence we devote a large share of our drawing period to freehand work. We begin with simple objects and then take up machine parts. Thus the boy sees the object and at the same time becomes familiar with the proportions and shapes of ordinary machine parts. Later he draws them mechanically with instruments to scale.

Civics and American history are included for obvious reasons.

The course in *business methods* comprises the study of the organization of shop systems, including the receiving of materials, laying out of work, tagging, and inspecting.

The workman will see the dependence of one department on the other, the necessity for the co-operation of all to insure good results. He will appreciate the cost of doing business, and he will see that it is not all profit, that it costs something to erect and equip a manufacturing plant, conduct an office, and maintain a corps of salesmen and advertising agents. In short it will give him some idea of the great responsibilities of the employer. It will help solve the labor-and-capital problem.

The method pursued to put the scheme into operation was this: On August 1, 1908, I began interviewing applicants and their parents. Previously the high school and public had been informed that the course would start up that fall. Boys who wished to follow the trades were selected in preference to others and eighteen were chosen to start the course. By daily visits to the shops during this period the arrangements were made for starting work and by the opening of school in September these boys were all at work. On the seventh of the month the boys were paired off and half of them remained at work while the rest came to school. Some boys dropped out and others came into the course, so that our first-year course, which started with the second or half-school-and-shop year has twenty-two pupils in it.

This year a first-year or all-school class has been started in addition to the second- and third-year classes, giving us a total of sixty boys.

By weekly visits to the shops and inquiries of the boys in

their school week I keep in close touch with their work. Should a boy feel that he is not getting just what he should he is not at all slow in making the fact known. Then by taking the matter up with the proprietors and foremen we soon find out whether or not a change should be made. There has been just one objection: the boys are so ambitious that they want to tackle jobs that they are not qualified by experience to handle. This is a laudable ambition and we try to show them the steps necessary to make them capable for that work.

Every opportunity for questions regarding shop work is encouraged in the school and these questions are of a most intelligent nature. Many problems are ironed out that the shop has not the time to consider and the interchange of methods used in the different shops broadens and helps all the boys.

The question has been asked, "What about the boy who wants to go to a technical school?" While this course was intended for those who wanted to become mechanics upon the completion of the course, they have, nevertheless, an excellent foundation for a technical-school candidate. By putting in another year at the high school in the study of a foreign language and a few other college-required subjects he is not only well prepared but exceptionally so. He knows what he is going for and can pass off his shop work and a great deal of drawing. Instead of losing he is a gainer. Several of our boys are looking forward to this plan.

EXPERIMENTAL PEDAGOGY IN GERMANY
FIFTH ARTICLE

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We were discussing the question of how the daily schedule is to be arranged, and had found that the order of subjects should be determined by the shape of the energy curve. The easier subjects are to be located at the times when the mental energy is falling, the more difficult at the times when it is rising.

In the sense of this requirement, we regard that subject as the most difficult which requires the greatest mental effort in the pupils, that is, which uses up the most mental energy. The question is, then, whether we can measure this mental effort. One such method of measurement is obvious enough. It is based on the self-evident fact that the degrees of subsequent fatigue must correspond exactly to the degrees of intellectual strain. Accordingly, it is sufficient simply to estimate the mental effort of the pupils by the degrees of fatigue which each subject produces. But how are we to estimate the degrees of fatigue? Here arises first the real difficulty, the one principal difficulty of our problem. At first there does not seem to be any difficulty here. For nothing seems simpler than to measure the degrees of fatigue. Are we not familiar with the inhibiting effects of fatigue on the sensory and the motor functions and on the power to do mental work? Should it not be possible to determine easily and with certainty from the magnitude of these effects the magnitude of the causes? Experiment has decided otherwise. We have already had an inkling of the embarrassments lurking here, and shall soon hear still more of them. In fact, it is one of the most difficult tasks of experimental pedagogy to find a trustworthy measure of fatigue.

Not only does the problem of the schedule encounter an apparently insurmountable obstacle in the way of practical experi-

mentation. Not even is its theoretical point of departure sufficiently certain. A second difficulty, in fact, which we slurred over above, meets us at the very outset of our course of thought.

We had been guided by three proportionalities:

a) The mental strain of the children was held to vary according to the difficulty of the subject in which they were instructed. The former was considered proportional to the latter, so that the effort of the pupils would give a measure of the difficulty of the material.

b) The effort of the pupils was supposed to be evinced by the degree of fatigue produced by each subject of instruction. Fatigue and effort being thus in proportion, the former would furnish a measure for the latter.

c) The magnitude of fatigue was assumed to express itself (again, proportionally) in the inhibiting effects which it produced upon the sensory, motor, and intellectual functions, the degree of inhibition measuring the degree of fatigue.

Briefly stated, this is: The fatigue-effect of each study was assumed to measure at once the mental effort of the pupils and the objective difficulty of the material in which they were instructed.

Cogent as this reasoning appears, there is nevertheless an error in the very first step. Is it really the different subjects of instruction which produce the different degrees of fatigue? Is it not rather the different methods of instruction and the different personalities of the instructors? One teacher will teach in a way that bores the pupils without exciting their zeal, their eagerness to learn. Their thoughts wander while he is talking or questioning individuals. A second teacher works with a severe external discipline. By commanding tone and biting sarcasm and unhesitating use of the means of discipline he knows how to intimidate the class, and holds it spell-bound, so that his words are always sure of receiving careful attention. The third teacher understands how to awaken in his pupils delight in the subject, so that the spontaneous attention of interest and not the forced attention of fear follows his questions and explanations.

Whatever the subject may be, the first teacher will fatigue his pupils least, the second, most. The method of the third teacher is the pedagogically and hygienically correct method. His method is pedagogically correct: the pupils learn under him, and they are there to learn. They ought to do mental work so that later on they may be able to accomplish something worth while. Hence their mental energy must not lie fallow, as with the first teacher, but must be put to use. The third teacher's method is hygienically correct. He works without any unnecessary, superfluous expenditure of energy on the part of his pupils. He gets results from their nervous capital, wasting none of it, but securing the largest possible accomplishment with the greatest economy of their strength. The severe teacher, with his corporal's discipline, forces the pupils to the greatest effort of the will and fatigues them most. That is, the severe teacher works with their voluntary, forced attention, instead of using the involuntary attention which flows on of itself. Recall for a moment a comparison which we have already used. We compared mental energy to the current of a brook which must set in motion the logical mill of that co-operation of perception, memory, and judgment which instruction is to produce in the mind of the pupil. Now voluntary attention, to carry out the comparison, is like water which has been pumped up, which first had to be artificially raised against the resistance of gravity, in order to be able to flow in the desired course. Voluntary attention may be called artificial attention, attention meeting with resistance.

Involuntary attention, on the other hand, is like the natural descent of the water—or, in this case, of mental energy—in that it flows on entirely of itself. What then is the natural descent of attention—where does it work easily, freely, and certainly? It does this where something pleases us. All pleasurable stimulations are like wells and channels wherein the springs of our mental energy burst forth of their own accord, without having to overcome resistance. Even popular speech is aware of this: "Lust und Liebe zum Dinge macht Mühe und Arbeit geringe."

The attention which streams out of these wells and flows in these channels we call interest. Interest is involuntary attention, it is mental energy in its natural descent, that is, in so far as it is guided by some pleasurable stimulation. The teacher who works with it will get a maximum of success with a minimum of effort, while he who works with voluntary attention will attain only a minimum of success with a maximum of effort.

Let us return now to our starting-point. The problem of setting up a wise schedule of studies was reduced to the determination of the respective difficulty of the subjects of instruction by the degree in which they produce fatigue. But we found at once *a priori* that it is never the subject alone which produces the fatigue, but always also the manner of teaching. Hence to be able to compare the various subjects according to their fatigue-effects we must think of them as taught by the same teacher and according to the same method, that is to say, reasonably, according to the method which works with the spontaneous interest of the pupils. Still another precaution would be requisite: that the lessons whose fatigue values are to be compared be put at the same hour of the day. That is necessary to eliminate the effects of the daily variations of the mental energy.

All this is far from sufficient to enable us to judge from the phenomena of fatigue the objective difficulty of the subjects of instruction. For even if the same teacher instructs the same pupils at the same hour of the day in different subjects, the difference in the material difficulty of the subjects is by no means necessarily reflected in the difference of the fatigue-effects. The peculiar nature of each subject conditions the details of method in the instruction. Such details cannot be compared; and thus the varying way in which they strain the attention affects in a manner which we cannot compute the result which the subject itself produces on the mind of the child, according as it is more abstract or more concrete, and employs more analytic or synthetic thinking, intuition or observation, comparative-causal or demonstrative inference.

The attempt to infer the comparative difficulty of the subjects of instruction from their fatigue-effects is burdened with another and graver objection, which goes to the heart of the whole question. We know how awkwardly the beginner works, how disagreeable the first steps are to him, how little he can succeed in unifying the single performances of which the action consists. That holds of the acquirement of bodily skill, and quite as much of the attainment of all mental ability. Only recently Meumann has shown in instructive experimental investigations that even so comparatively simple a process as mechanical memorizing is at first performed with much unnecessary expenditure of energy; for example, the position of the body manifests the tension of quite unnecessary groups of muscles. Moreover, the learner uses regularly at first the more complicated of the means of learning placed at his disposal by his psychological habit (the predominantly visual or acoustic or motor nature of the material of his ideas, the rhythm of his activity), and comes to know the simpler and more suitable only by use, while at the same time there takes place a certain advantageous mechanization.

So for every occupation the right inner arrangement—a certain equilibrium of the suitable means, a certain mechanism of the fundamental activities, on the basis of which the consciousness becomes free for wider, higher performance—must first become familiar. Every beginner at first wastes his powers. He applies some which do not help him, and uses others at the wrong place.

The same is true of the pupil. It is not merely that unnecessary strain is often imposed upon him from without, by the teacher, as is the case when he is taught according to a false method. Superfluous expenditures of force are imposed upon him also from within, in the beginning of every study. They arise from the natural unskilfulness with which he at first takes hold of the unfamiliar matters. The inexperienced pupil proceeds, from the standpoint of energy, uneconomically with his means, and is punished by overgreat fatigue.

This subjective fatigue-component, produced by the pupil's

lack of skill, is of course extremely variable. It must be disposed of first if we wish to determine what may be called the objective energy-equivalent of the work belonging to the various subjects as such, according to their intrinsic quality. Hence it seems obvious that we are to investigate the fatigue-effect of the various subjects only on such pupils as are already to some extent familiar with the scientific activity required of them. We had earlier made the requirement of the same time of day and the same teacher in order to make the difficulty of the school subjects comparable. Now the further requirement appears necessary, that the pupils by whose fatigue we wish to measure the difficulty of the subjects must have had as much practice as possible in each.

Necessary as this requirement is in the interest of exact measurements, still it is contrary to the sense of the experiment. For in every period of scientific instruction the pupil is to learn, i. e., on the basis of processes which he understands he is to be led over to processes which he has not mastered. It is not a static but a dynamic element, not a completed but a growing mastery of the material, which conditions the energy-equivalent of the work of a lesson. How can this imponderable thing be compared in the different subjects! Even if we ventured to say that the pupils are exactly as well trained in one subject, say Latin, as in another, say mathematics, can the advance which the next mathematical lesson is to produce in mathematical knowledge, and for the attainment of which the mental energy of the pupils is demanded, be thought in any way comparable with an analogous advance in Latin?

Questions and doubts of the sort mentioned have been too little regarded in the experimental investigations by which it has been sought to measure the relative difficulty of the various subjects of instruction. It has not been determined whether the pupils were subjected to comparable processes of instruction and to comparable processes of learning. On this account all the numbers which have been stumbled upon have no value for comparison, even if the methods used had been unobjection-

able. Thus, for instance, Ludwig Wagner[1] reports that he has found the following fatigue-values of the various subjects: Mathematics, 100; Latin, 91; Greek, 90; gymnastics, 90; history, 85; geography, 85; computing, 82; French, 82; German, 82; nature-study, 80; drawing, 77; religion, 77.

Such a graded scale, comparing the difficulty of the various subjects of instruction in the measure of fatigue, is very interesting. But, according to the preceding, numerical values such as these must be regarded with extreme skepticism. They give a flattering presentment of a comparability of the subjects of instruction from which in reality we are very far distant. Moreover, L. Wagner had already indicated the one point which we have emphasized above, that "the personality of the teacher counts for incomparably more than the material."

Our criticism of the attempts to read off the difficulty of the material of instruction from the phenomena of fatigue is not yet ended. It is continued and strengthened if we turn our attention to the methodology of measuring fatigue. Our previous result ran: The fatigue of the pupils does not measure what it is supposed to measure, namely, the intrinsic difficulty of each subject. Now it will appear (or rather, it has long been known to experts) that fatigue itself is not uniquely measurable. At least the methods hitherto used do not suffice to measure it.

We have already met with one such method. It is the psychological method of measurement, as we may call it in distinction from the other, the physiological, methods. It consists in having the pupils prepare some one sort of easy "test-work" just before and just after the "fatigue-work" (the instruction in the subjects to be compared, as Latin, mathematics, etc.). The degree of fatigue, it is expected, must be shown exactly by the degree in which the succeeding "test-work" is poorer than the preceding.

Kraepelin believes that the continued addition of one place numbers is to be recommended as a "test-work." That is the

[1] Ludwig Wagner, "Unterricht und Ermüdung," *Sammlung von Abhandlungen aus dem Gebiete der pädagogischen Psychologie und Physiologie*, herausgegeben von H. Schiller und Th. Ziehen, Berlin, 1898.

process by which he got his beautiful conclusions concerning the work curve, except that the test is limited to five minutes. Otherwise, indeed, it would produce new fatigue, instead of measuring what is already present. For the result, as in the case of the experiments on the work curve, it is not the exceptional errors in addition which may have occurred but the quantity of numbers added which is to decide. It is not then the reliability, but the rapidity, of the performance that is considered decisive by the Munich psychologist. This, because in such easy computations as the above the errors made are negligible (for adults, about 0.1 per cent.), but above all because the correctness of the additions is proved to depend only on the speed of the work, not on the fatigue. That is, if the subject of the experiment computes more slowly he makes fewer mistakes, and still it is precisely in the retardation of the process that his fatigue is shown.[2]

It is not easy to carry out such tests with the necessary accuracy. In such short performances as adding for five minutes, among other things, the impulse of the will to take up the activity is manifested in the beginning with an evident increase of accomplishment, soon to yield to a more mechanical and less lively method of work. This influence of the impulse must first be eliminated from the "test-work," in order for the effect of the preceding fatigue (which comes from the principal work, that is, from the lesson) to appear in its purity. With great care, Kraepelin gives, on the ground of his eminent experience in conducting experiments on the factors of the work curve, all the precautions in order to get rid of these and other influences which, beside the fatigue whose amount is to be deduced, affect the quantity accomplished. He thereby enumerates just so many practical difficulties in making a decisive test of the sort mentioned.

In case we have, finally, accurately computed the amount in which fatigue has impaired the accomplishment of the "test-work," do we really possess in this number also an adequate

[2] Kraepelin, *Zur Uebermüdungsfrage*, 1892. Cf. *Psychologische Arbeiten*, I, S. 336–650.

measure of the fatigue? Should the decrease in so familiar and almost mechanical an activity as the addition of one place numbers be practically proportional to the expenditure of mental energy for a lesson in Latin, or in German composition, etc.? The "test-work" and the work which produced the fatigue would seem to be too dissimilar for that. On the other hand they must not be altogether similar, because otherwise the "stimulation" remaining after the principal work would make the "test-work" easier. Now to be sure fatigue is always general, and hence it must injure every sort of work. It does not follow, however, that every sort of work is suitable for "test-work." I recall the surprising discovery of the Würzburg teacher, Dr. Schmidt.[3] In the time between twelve and one o'clock, a time of diminished mental energy, the home tasks of the children came out remarkably well if they consisted of exercises in copying and in computing. On the other hand, the same hour was decidedly unfavorable for German composition. In short, the daily depression does not show itself in the performance of computations. Hence this loses its trustworthiness as a measure of the degrees of fatigue.

Furthermore, Ebbinghaus' method of psychological measurement is not unobjectionable. The experiments of this careful investigator show beyond a doubt that "test-work" of a more mechanical character reveals the mental fatigue only very inaccurately. The fatigue is shown much better by the "combination test-work," that is, the filling in of words and syllables omitted from a printed text. But the step from this to the exact measurement of the fatigue brings serious difficulties. Kraepelin found these so great that he refrained entirely from tests of this sort, in which the quality of the performance comes into account or is even determinative. The influence of fatigue must certainly make itself felt in the reduction of quantity and quality of accomplishment in the "combination test-work;" but how is the decrease to be computed? "The importance of the errors and omissions is so various, even within the same experiment, that a simple counting is open to

[3] Cf. the fourth article.

grave objections, whereas on the other hand a gradation of them could be made only quite arbitrarily."[4] This difficulty of putting the number and kind of the errors into integers and fractions burdens not only the "combination test;" it weighs upon all attempts to determine the degree of fatigue, which is something quantitative, from the qualitative deterioration which a test accomplishment shows after as compared with before the fatiguing lesson.

The psychological methods of measuring fatigue, which Kraepelin and Ebbinghaus have worked out, are our best and most advanced methods. They measure mental effort through mental performance, whether by the reduction of quantity or of quality. Beside these psychological methods there exist still physiological methods, which were developed earlier. These are the fatigue measurements in their baby shoes, as it were, and still more defective than the preceding. They make use of the crippling of the sensory and motor nerves by fatigue. Griesbach[5] sets out from the observation that any fatigue of the attention, among other things, decreases the ability of the senses to make distinctions. He had noticed especially that the ability to distinguish two close point-like touch-impressions was smaller after mental effort than before it. Hence he thought that in the space-threshold (that is, the distance between two circular points which could just be distinguished by the sense of touch) he had found a measure of the degree of mental fatigue. This assumption has proved to be erroneous. The same variations in the fineness of discrimination in the sense of touch which Griesbach assumed to express the fatigue from mental work appeared in the control-experiments of the American

[4] Kraepelin, "Ueber Ermüdungsmessungen," *Archiv für Psychologie*, I. Also according to Meumann, *Haus- und Schularbeit*, in the attempt to determine the size of the single errors and according to these to set up a scale of errors lies a particularly dangerous side of pedagogical experiment. For by a determination of the size of the errors, in case this determination was insufficiently established, one could create artificial results which would give no true representation of the facts (p. 16.)

[5] Griesbach, *Energetik und Hygiene des Nervensystems in der Schule*, 1895.

Leuba[6] on days of rest as well. Moreover, Griesbach's process is very much exposed to subjective unreliability. Upon stimulation with one circular point, the persons experimented upon frequently assert (from autosuggestion) that they perceive a double impression.

Other experimenters, especially Kemsies,[7] set out from the fact that mental fatigue diminishes also the power of muscular accomplishment, and measured (by means of Mosso's ergographs) the height to which the middle finger of the right hand could raise certain weights (three to five kilograms) before and after mental work. But here too, as Bolton and Meumann bring out,[8] we have no proportional to mental fatigue. Moreover, in this method we are met by insurmountable technical difficulties, which Kraepelin and Robert Müller have discovered.[9]

That is, all those kinds of work which are associated with noticeable or unnoticeable motor impulses (mechanical learning, reading in a whisper, computing) leave after their cessation a "psychomotor stimulation" which, in opposition to fatigue, at first renders easier every motor "test-work."[10] On the other hand, other sorts of mental work, which require exclusive attention to sense impressions or to purely intellectual activities, exercise on that account an inhibiting influence on the carrying out of motor impulses, which along with fatigue makes the motor "test-work" more difficult. Such inhibition or stimulation must have passed away before the test by lifting can be begun. But then in the meantime the condition of fatigue has altered. More-

[6] Leuba, "On the Validity of the Griesbach Method of Determining Fatigue." Cf. Germann, "The Invalidity of the Aesthesiometric Method as a Measure of Mental Fatigue;" both articles in *The Psychological Review*, VI, 1899. Cf. Elliot und Meumann, "Kritik der Griesbachischen Methode," *Deutsche Schule*, 1901.

[7] Kemsies, "Zur Frage der Uebermüdung," *Deutsche Medizinische Wochenschrift*, 1896.

[8] Meumann, *loc. cit.;* Bolton, "Ermüdung, Raumsinn und Muskelleistung," *Kraepelins Psychologische Arbeiten*, IV, 175–234.

[9] Kraepelin, *loc. cit.;* R. Müller, "Ueber Mossos Ergographen," *Philosophische Studien*, XVII, 1–29.

[10] Bolton, *loc. cit.*, found the performance on the ergograph *increased* after adding for two hours.

over, the accomplishment of the motor "test-work" is made worse by no means only in consequence of the central fatigue, which is to be measured. Any fatigue of the muscles concerned also produces a like effect. The two components of the fatigue, the central and the peripheral, first have to be separated.

In short, wherever we look in the measurements of fatigue, a reliable result is everywhere denied us. None of the methods gives a trustworthy measurement of the fatigue arising from mental work; most of them never can give one. This takes away again the ground for any hope of approaching the problem of the plan of studies from this side. Again—for such hopes were according to our earlier consideration *a priori* illusory. We never have at our disposal comparable amounts of that which is the cause of the fatigue, the mental activity of the pupils in lessons in Latin, mathematics, religion, etc. The processes of instruction and learning differ from hour to hour. Every attempt to evaluate exactly the relative difficulty of the subjects contains, just on that account, an arbitrary factor. The *terminus ad quem*, for which we are seeking the measurement, remains unamenable to exact comparison. Now, furthermore, the same thing is true of the *terminus a quo*, namely, of the fatigue, from which we wanted to secure the measurement. For this also, the effect resulting from the occupation with the various matters of instruction, we lack any certain methods of measurement. Fiasco here, fiasco there. Neither the quantities of mental occupation, which we wish to measure, nor the quantities of fatigue, in which the work-equivalent of the former is held to be expressed, have as yet been precisely determined.

ROBERT OWEN—EDUCATOR

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The past often has important but neglected lessons for the present. While history never repeats itself on a large scale, the whirligig of time rushes society into epochs which even the careless student of history may recognize as possessing many of the landmarks of an earlier era. In the sphere of education, as in the social, economic, and religious world, the American people are standing face to face with a crisis. Is the work of the public-school system to be broadened and socialized, or is it to be relatively narrowed and commercialized? The epoch from 1820 to 1850 which gave birth to the American free-school system should be studied by all interested in the political and educational progress of the next two or three decades.

In the second quarter of the nineteenth century, the educational struggle centered around this proposition: Shall the public schools be free to all or only to pauper children? It was free versus private or "pauper" schools. Today the free-school system is an accepted institution; the controversy is now focused upon the aims and ideals of the school system. Shall education mean a broad intellectual, industrial, physical, and moral culture; or shall it connote only a narrow technical training? Shall the public school aim to develop citizens out of the boys and girls of the masses, or shall it merely fashion human machines? These are the vital educational problems of the hour; and, if we will search the records, the earlier struggle can teach some very significant lessons.

Educational progress and educational reform, like advancement in the political or the legal realm, are conditioned by industrial and social changes. The great-man theory of educational progress is as insufficient as is the great-man theory of political history. The great man in education or in politics is

"but the centralized expression of the times." He directs the social forces which are seeking expression, and thus he hastens progress. The growth of crowded population centers, of factories, and of a wage-earning class, accompanied by the unrest inevitable to a population immersed in new living and working environments, prepared the seed-plot for the successful propaganda of the theory that schools should be free and tax-supported. The real educational leaders of this formative period were in sympathy with the rising wage-earning class; and were familiar with the warp and woof of the social fabric which the steam engine and the factory were weaving. Today concentration of wealth, consolidation of industry, standardization of work, the tendency toward stratification of classes, the decay of the old apprenticeship system, and the threatened commercialization of the public-school system are preparing the ground for another educational revival and for the advent of new educational leaders who will be able to grasp the significance of the underlying social forces of the present generation.

Mr. George B. Lockwood, in a book entitled *The New Harmony Movement*[1] presents a sympathetic and possibly overenthusiastic statement of the value of the educational principles of Robert Owen, the great English philanthropist, and of his most famous son, Robert Dale Owen. These important principles and precepts were worked out in the New Harmony Community in the last of the decade of the 20's. This community was located in Indiana, on the Wabash River about fifty-one miles above its mouth. Mr. Lockwood gives New Harmony the credit of being the great center from which radiated influences which led to the establishment and improvement of the public-school system. This writer seems to be under the influence of the great-man theory, and to overlook the fundamental importance of the marvelous industrial and social transformations which occurred in the United States between the passage of the Embargo Act and the half-way mark of the century. Nevertheless, every teacher and every student of the theory and history of education ought to read the chapters in this book which deal

[1] Appleton & Co., 1907.

with the educational principles of Owen and his colaborer, Maclure.

Robert Owen was not a teacher; he was a social reformer, a humanitarian leader, and a dreamer of Utopian dreams. This lover of humanity emphasized the idea that the individual was the product of his environment. One of his favorite mottos was: "Man does not form his own character, but it is made for him." And in Owen's opinion education should be a factor of prime importance in forming men and in modifying circumstances.

Owen's New Harmony Community was the most important of all the many Utopian communities organized on American soil. The enthusiasts who founded communities which were to be models for the big outside, unregenerate world were poor psychologists. They firmly believed that men were ruled by reason; it was not given them to look into the depths of frail human nature and to see the hidden forces which are called custom, tradition, creed, class division, and interest rivalry, which often throttle reason and bias judgment. Robert Owen and other founders and promoters of Utopias argued a priori that as soon as the struggling and dissatisfied world got a clear vision of life—the good life—as unfolded in the harmonious community injustice, inequality, and unhappiness would be purposively replaced by justice, equality, fraternity, and happiness; the community life would be quickly writ nation-wide and world-wide. Such was the optimistic dream of Owen; and New Harmony was its concrete realization. New Harmony was to furnish "an ideal social environment," and under these "ideal surroundings a perfect race might be developed." New Harmony was a social experiment station. Owen desired to be a social Burbank. The community did not thrive; human nature cannot, perhaps fortunately, be recast and reformed in a day or a generation. But although New Harmony as a model community was a notable failure, the influence of the ideals which found expression in this miniature and artificial world have been unconsciously felt in many directions.

In the educational scheme exemplified in the New Harmony

schools were incorporated a variety of principles and methods which have finally found, or are finding, lodgment in our public-school system. Nearly a century ago Owen advocated free and universal education. The kindergarten and the industrial school were made integral parts of his school system. He urged that classical education, so called, should not be "thrust down the throats of all its unwilling victims." The "school city" form of government was advocated. No doubt some of these commendable methods and principles were borrowed from Fellenberg of Howfyl, in whose school Robert Dale Owen was a pupil; but Owen was the first man to introduce these educational innovations into the United States. American educators have scarcely as yet reached the mark set by Owen over four score years ago.

After the collapse of the New Harmony Community in 1828, Robert Dale Owen, still under thirty years of age, went to New York City. With pen and voice he soon began to present his panacea for social ills. The ground had already been prepared, and the seed fell on fertile soil. Industrial towns and cities were springing into existence. Textile factories were beckoning to wage earners. The evils of the factory and town life were for the first time revealed in their repulsive nakedness. The frontiersman was placing the ballot in the hands of the workers, who were smarting from a feeling of injustice, subordination, poverty, and squalor. The puritanical New Englander, tinged with religious ardor, had long been proclaiming the necessity of education. Repeatedly was the worker confronted by the trite dictum: the uneducated must ever remain a degraded caste. Then at the very moment when organized labor was preparing for its first significant struggle on a large scale for justice and higher standards of living, the most uncompromising of all American educational enthusiasts thrust himself before the eager, anxious, and discontented workers with this oft-repeated slogan: "I believe in a National System of Equal, Republican, Protective, Practical Education, the sole regenerator of a profligate age and the only redeemer of our suffering country from the equal curses of chilling poverty and corrupting riches, of gnawing want and destroying debauchery, of blind ignorance and of unprincipled

intrigue. By this, my creed, I will live. By my consistency with this, my professed belief, I claim to be judged. By it I will stand or fall." Thus did Robert Dale Owen, animated by the faith of his father, sound a cry which was echoed in almost every workingmen's meeting from Boston to Charleston. In those eventful years, 1829, 1830 and 1831, of the first organized agitation by American workingmen, an impetus was given to the movement for free and universal education which led directly to the general adoption of the free-school system. The American public-school system owes much to Robert Dale Owen, to his father, and to New Harmony.

The American people have been prone to adopt watchwords and shibboleths, and to accept the passionate plea of almost any ardent and able reformer of the single-trait variety. Many Americans have rallied around the banners of manhood suffrage, free homesteads, free silver, and socialism, implicitly believing that the panacea for all social and economic ills had at last been discovered in one of the reforms mentioned above. But the most persistent of all American social slogans has been: free public education for all children. Many Americans have looked and are still looking to the public schools as the rock upon which American citizenship and American institutions rest. More Americans have marched under the banner of the free school than have followed the leaders who raised standards on which were inscribed free homesteads or free silver. The two Owens must be given high rank among the enthusiastic leaders of the free-school movement.

Why should we of today study the work and the educational principles of the sage of New Harmony? This is the answer: Robert Owen and Robert Dale Owen were men who caught a glimpse of the significance of the social changes of the early portion of the nineteenth century. They were permeated with the spirit of modern democracy—a spirit whose existence the steam engine made possible. The men and women who are to be educational leaders in the twentieth century must learn of Owen; and, in addition, they must be diligent students of history and of industrial evolution. Educational precepts and traditions

formulated in days gone by do not meet the demands of today when a new balance of social forces obtains.

The school is broadening its scope; educational ideals are changing. Is the school of the near future to approximate the factory or the studio? Will all pupils be unwillingly crowded into a common mold in large classrooms directed by central office red tape? Or, will the individuality of students and teachers be duly and carefully considered? The educational leader of the next decade will be the man or woman who successfully stems the tide which is running toward the standardization of the output of the American public-school system.

The Owen of the next decade will not say, "I believe in equal, practical, republican education"; he will assert, "I believe in training men and women to make a living and also to live, to enjoy, and to resist oppression." The educational leader of the next decade must, like Owen in the past century, be in sympathy with the overworked and the underpaid. He will not, like the latter, be a Utopian dreamer, but a student of individual and social psychology. The Owen of the next decade, like his prototype, will not be a stickler for educational precepts and methods learned in his youth. Owen was an educational radical; but a period of educational transition demands the innovator and the radical. Today the radical is needed, not the erratic and eccentric radical but the radical who thoughtfully and dispassionately appeals to psychology and to industrial evolution. In educational radicalism of this type lies the hope of the future.

A SPELLING "HOSPITAL" IN THE HIGH SCHOOL

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Two years ago a plan for improving the spelling of high-school students was put into practice in the high school connected with the School of Education, and has now been working for a period sufficiently long to estimate its effect in some degree.

As is well known, poor spelling in the high school arises from two causes, negligence, on the one hand, and on the other, deep-seated inability to spell even when care is taken. Usually in the high school the first of these is the chief cause, for the number who cannot spell when they try is relatively small. But in this high school, the second factor was unusually prominent because the students come from all over the state and are frequently poorly trained in matters of form.

Instead of requiring all students in the high school to take special spelling lessons, it was decided to work according to the following plan. Any student who, in his written work in the courses which he is pursuing, spells with reasonable accuracy, need not pay special attention to spelling; but any student who does not spell with reasonable accuracy ought to pay special attention to spelling, until such time as he can spell with reasonable accuracy. In other words, it was announced that any student who made an average of more than one mistake per page in any paper handed in in connection with any of his courses would have to attend the special spelling class until he could demonstrate in his written work *in connection with his regular courses* that he was able to come up to the standard.

This plan was announced to the students in the fall of 1907 and at the end of the month the teachers were asked to hand in the names of all pupils who were eligible to this class, later dubbed "the hospital" by the students. Twenty-seven students out of a total of 156 reported. Some of these, students who were

merely negligent, were "cured" in a week (the minimum period of detention). To the class were added from time to time those who had a temporary slump or had escaped detection in the earlier reports. Its personnel fluctuated from week to week, although about ten incorrigibles remained to the end of the year.

During 1907–8 and 1908–9 the class met twice a week from four to five o'clock. This year it meets once a week from four to five o'clock. The task of teaching the delinquents has always been assigned to one teacher. During the first year the teachers (practice teachers) reported directly to the spelling teacher. During last year and this year, one of our supervisors has charge of all the papers of the students, and she reports to and consults with the spelling teacher. A student is excused from the class when these teachers in consultation decide that his work is satisfactory.

In the class three things are taught. In the first place, rules for memorizing are given, such as spelling aloud, spelling to oneself, writing out the words, paying attention, etc. Second, rules of frequent application, such as doubling the final consonant, dropping the final *e,* etc. are drilled upon and exceptions noted. Third, methods for detecting and correcting errors are studied. In connection with this all students are required to own a dictionary. They are advised that even practiced writers always read written work over once at least for the sake of the form and spelling after they have written it for the content. They are further advised to scrutinize each word carefully and stress is laid upon the fact that whenever they have the *least* doubt about a word they should investigate it. That is to say, they should spell it over to themselves, or write it out, and *then,* if they are not certain they should look it up in the dictionary. To this end, sentences are placed on the blackboard containing some words incorrectly spelled. The students are given time to make up their minds and report on them. Any word of which any student is not sure is written out by him until he feels that he will not forget it again.

It is interesting to note that out of the 70 pupils in the school this year who were in it last year only two are in the "hospital,"

while out of 300 new students, 54 have been assigned. It is evident to the teachers that the expectation of reward for carefulness has raised materially the orthographic tone of the school.

This plan is one that can be worked in any high school where a teacher can be secured to take the pupils for one or two hours a week at a period in which everybody is free to attend. All it requires in addition, is that the teachers of history, English, etc., report students who are not up to the desired standard. In this school one mistake to a page in any paper is set as the maximum to be allowed without consignment to the special class. There is no reason, however, why in a school in which the students are regular, the limit should not be set at absolute accuracy for Seniors, or possibly, for Juniors, when the students have been accustomed to the plan from the time they were Freshmen.

Incidentally it may be said that the same plan works well with writing. It may be begun as soon as the forms of the letters are well established, probably as early as the sixth grade. It was tried in one sixth-grade room of the Columbia public schools last year, and in the short time that it was in operation it seemed to work with considerable success. In this room only those students who wrote illegibly in the other work were included in the writing class, the good writers being allowed to do other things. The delinquents were not taught a new system. All the pupils wrote fluently on the blackboard one at a time and suggestions were made as to what to do to make the writing legible. It was found that attention to and drill upon crossing *t*'s, not looping *d*'s and *t*'s, not allowing the letters to "lie down," closing *o*'s and *a*'s, etc., cured most of the difficulties.

In conclusion, the advantages of the "hospital" plan may be enumerated: (1) there is a jocular stigma connected with the "hospital" idea which, coupled with the necessity of spending one or two extra hours a week upon the work, makes the students anxious to get out of the class as soon as possible; (2) these same conditions encourage the students who are not naturally weak in these subjects to be more careful so that they will not be consigned to the class; (3) as over against making everybody take part in a spelling and writing exercise it has the advantage

of allowing students who are reasonably satisfactory in these respects to spend their time doing something else, and not to waste it in doing what they already can do sufficiently well; (4) by collecting only those who are poor in these subjects more individual attention can be paid to the difficulties of each student, because the number in the class is relatively small; and, lastly, the presence of such a class keeps before the student body and the *whole corps of teachers,* good standards in the matter of writing and spelling. Indeed, without the co-operation of the whole corps, the value of the work is materially lessened.

This plan does not insure perfect spelling on the part of all students but it cures the negligent most effectually, and helps the incorrigibly poor spellers in some degree.

LIBRARY READING IN THE HIGH SCHOOL

III

CLASS METHODS

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The actual classwork may be carried on in various ways, and may cover a variety of subjects. At the beginning of the recitation, it is well to enter each pupil's record of reading, in a ledger kept for that purpose. If this is done it will be easy at any time to find out just what each student is doing, and to study his tastes and needs. After the preliminary work of taking the record is completed, the reports on reading may be made. This, as has been stated, should, as a rule, be oral. In the case of books of fiction, the pupils should be trained to avoid telling the story in a long-winded, minutely detailed way; they should not be allowed, either, to spoil the story for others by solving all the mysteries, and revealing the situations involved in the climax of the tale. Attention may more profitably be centered in the setting of the story, the characteristic problems, and purposes of the book. Sometimes, a simple outline for reports may be given, so that the speaker may follow some logical order in his talk, and not ramble confusedly, as he is likely at first to do. Lively or impressive incidents, judiciously selected, will serve to interest the hearers, and arouse in them a desire to read the same book.

If the book is not of the order of fiction, a condensed account of its contents and purpose will serve both to satisfy the teacher as to the intelligence with which it has been read, and to inform other members of the class as to its interest and value for them. Older pupils may give long and rather complete discussions of books, according to outlines prepared by themselves. Some excellent results may be obtained in this way; but the teacher must be careful not to force this method upon her classes before they are ready for it. In these oral reports, much care must be taken to lead the pupils to speak clearly and connectedly; serious mis-

takes should be corrected. Nevertheless, a great deal of tact is necessary to avoid embarrassing the speakers, and interrupting the course of their thoughts. In the earlier stages of the work, it would be wise to encourage spontaneity of expression and freedom of debate, even though a few grammatical errors should escape unremarked.

Written reports may be made occasionally, for variety's sake, and for the purpose of reaching every member of the class—a thing which cannot always be done in the oral recitation. The writing may be done according to an outline supplied by the teacher; or each pupil may be required to put at the head of his paper a brief outline of what he is planning to discuss. This precaution will help to do away with the jumbled, unorganized work which would otherwise be produced.

The written report, if carried too far, is sure to become irksome, and to destroy the pleasure which the children have taken in their reading. Especially ought a system to be condemned which demands a detailed written report of all books read. Very few grown-up people would tolerate the task of writing out an account and criticism of even the books which they have enjoyed most. The burden of such a requirement would become unendurable, and the sight of any volume nothing short of odious. How much less could an unskilled youngster brook the hardships of an ever-recurring written report! The aim of the library-reading class would be entirely unfulfilled, and a race developed, not of book-lovers, but, very justifiably, of book-haters.

Much work may be done in class beyond that of the regular reports. These may properly be omitted with varying frequency, and the time otherwise employed. Each student ought early in his course to be taught something of the usual methods of the classification of books, the meaning of library labels, and the method of finding a desired volume. Practice in looking up books on subjects in a card catalogue can scarcely be dispensed with. It is surprising to find how helpless most high-school pupils are in matters of this kind. If they are taught to make intelligent use of a library, with all the facilities which it offers, they will be equipped with a set of tools most valuable in any line of labour

which they may take up on leaving school. The teacher may give to the boys and girls short, individual lists of books to look up in the catalogue, and, where such freedom is allowed, actually to locate on the shelves. Or she may tell the pupil to make a list of all the books in the library by a certain author, as indicated in the catalogue; or she may assign the task of preparing a list of the best references on a certain subject, with some account of the contents of each book.

There is another thing which ought to be done, and which will be of assistance to every teacher in school; that is, the teaching of the use of reference books. Each student may be assigned the name of a certain reference book, upon which he is to make a complete report. This is better than the mere making of lists, as it cannot be done without an actual and thorough examination of the book in question. Many young people will be found to be ignorant of the simplest reference works; and even the best informed can be directed to volumes that will be of inestimable assistance to them in the preparation of lessons, essays, and debates.

Reports upon magazines may be made in this same way, care being taken to compare the different periodicals with a view to detecting the value or, if necessary, the worthlessness of each.

A not unprofitable element of the classwork is the selection of books for the next period of reading. A good method is to pass about in class such books as seem suited to the ages and tastes of the boys and girls, and let them read into the books for fifteen or twenty minutes, to find out whether they care to finish. After the teacher has become well acquainted with her students, she will be able to select for each one, almost unerringly, the kind of book which he likes and needs. This is an especially good method where a pupil seems aimless and uncertain in his selection, and often results in his reading a number of books along similar lines—books which he would not have known how to choose for himself. Even if he does not care to read the book handed to him in class, he becomes more or less familiar with it; and the mere certainty that it does not appeal to him forms a not unworthy part of his literary knowledge.

Browsing among books may occasionally be allowed, during the whole or part of a recitation period. The class, turned loose, with their attention, perhaps, called to a certain department of the library or a certain group of volumes, may, in the short time allotted to them, make a few permanent book-acquaintances that will guide them in later selection. Mere intelligent contact with books can do much in the way of imparting information, and creating a literary instinct; and children should be given every opportunity to meet the book-personages of the library on an agreeable footing.

Occasionally, the teacher may read aloud to the class, to entertain and interest them, or to show them the substance of some volume to which she wishes to call particular attention. This method will almost invariably result in the request for the book from which the selection has been read.

The use of pictures can be made interesting and beneficial. Portraits of authors, photographs of regions where the scenes of novels are laid, illustrations of stories and poems will help to deepen impressions and make the work more lively and acceptable to the youthful mind—which dearly loves the tangible and concrete. At all times, information on authors and their works, with incidents and anecdotes concerning them, will form an inevitable accompaniment of the ordinary topics of the recitation. The teacher will be the usual source of such collateral information, and will strive, of course, to add constant accumulations to her store of knowledge about authors and their works. When she finds that she has the sympathy of her class, she may give brief, well-planned talks on books, authors, and kindred themes, with the double purpose of imparting facts, and stimulating the interest in literary subjects.

There are other ways, which will suggest themselves as the work goes on, of varying the routine of book reports, and of making the class period a time of recreation and instruction. Ingenuity, vivacity, and a broad knowledge of books of all sorts are the teacher's surest aids in saving the work from dulness, and in making of it an actual means of culture to the pupils.

DISCUSSION AND CORRESPONDENCE

ESPERANTO AS A PREREQUISITE STUDY

Editor of the School Review:

I have read with interest the article by Dr. Ivy Kellerman in the February number of the *School Review* upon "Esperanto as a Prerequisite Study," and wish to add a word concerning the usefulness of this language.

For four consecutive years I have taught voluntary classes in Esperanto, after hours, in the Roxbury Latin School; but the conditions under which I have taught them have been so different from those under which I have taught Latin, Greek, and French that a comparison would be unfair—to Esperanto. A voluntary class, for which no Philistine "credit" can be given, taught after hours, only one hour a week, cannot expect to show results comparable to those secured by a compulsory class, in a language which counts four points (if Latin or Greek) out of twenty-six toward a diploma or college entrance, taught during school hours, for five periods a week.

But from the stimulating effect of Esperanto upon my own mind, as an aid to linguistic study; from the fact that Esperanto has a drawing power that neither Latin nor Greek possesses; from the fact that one unprepared lesson in Esperanto will lead a pupil farther into the mysteries of the *lingvo* than four prepared lessons will do with regard to any other language—from these facts I am ready to avow that, in my belief, one term's work in Esperanto ought to precede the study of any foreign language.

A well-known statement of some wise educator is this: "You can conduct a pupil to any height whatsoever, provided you make the steps short enough." And Esperanto provides the short, the easy, the attainable step. A child who begins with studying Esperanto discovers that it is possible to learn every lesson well. So the habit grows upon him; and when he sooner or later takes up a harder language, he is like a not inexperienced hill-climber who now assays a mountain.

I will repeat what I have often said before. If I were the autocrat of education in the United States I would say to every school in the land: Thou shalt not teach Latin, nor Greek, nor French, nor German, nor Italian, nor Spanish, nor any other alien tongue, till thou hast taught the elements of Esperanto for at least one term.

Thus by the inclined plane of the international auxiliary language I would reach the higher polyglot levels.

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THE ANTIGONE PRESENTED BY HIGH-SCHOOL PUPILS

Editor of the School Review:

The November issue of the *School Review* contains a record of a Latin play produced by the pupils of the Western High School of Detroit. I beg to furnish an account of the Greek play, the *Antigone* of Sophocles, given by the pupils of the senior class of the Trenton, N. J., high school.

As a Schiller play was given the same evening, only a condensation of the Greek text could be used, but the entire narrative was preserved, only the longest speeches and the hymns being cut. The music of Mendelssohn's opera *Antigone* was used entire in so far as it corresponded with the text employed. The male-voice choruses were too difficult; so only the choruses of the Theban maidens were sung, although some of the music of the elders was adapted for the girls. The play was given in November, 1909, but the chorus and instrumental work was begun before school closed in June. The high-school orchestra played the entire score, and was given considerable credit for its rendering of the difficult passages. The chorus sang in excellent time and rhythm, and seemed to catch the spirit of the original with remarkable intelligence.

The whole work was given under the direction of the department of public speaking, although the services of a New York operatic teacher were secured incidentally to give suggestions of pose, gesture, and step. The stage was set to conform as nearly as possible to the Greek idea, though background was obtained by using appropriate scenery from a local theater. The traditional ideas of entrance, stage grouping, marching, and oral delivery were followed in detail. Costumes entirely appropriate to the times were rented from a well-known Philadelphia dealer, although the girls in the chorus made their own dresses from plates. The art and manual-training departments furnished whatever accessories were needed. The production was given three nights to crowded houses.

Too much cannot be said in commendation of the way the principals enacted their parts. Each strove, not to excel the other, but to portray the character represented as it was thought the author conceived it. It is not an exaggeration to say that the work was not amateurish; it was scholarly. It stands to reason, of course, that high-school pupils could not have the maturity of point of view of college students, but this very lack of pedantry permitted the instructor to teach them the spirit of the original, and to retain that freshness and spontaneity of interpretation which not only gave them a conception of classic literature which they will never forget but captivated their hearers beyond their highest expectations.

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EDITORIAL NOTES

Organization of Section L

Four years ago there was organized in the American Association for the Advancement of Sciences a Section of Education. This section, designated as Section L, has received the support of four classes of members. First, there are those who are interested in science teaching. They come in some measure from the other sections of the Association and in some measure from the Federation of Mathematics and Science Teachers which meets with the Association. Second, there are members of Section L who are interested in the problems of college education and find no other educational organization devoting itself to the scientific investigation of college problems. Some of the most productive work of the section has been on college problems. A third class of members is drawn from the ranks of the psychologists who usually meet with the Association. The psychologists are often working on educational problems and have held two joint sessions with Section L for reports on papers of common interest. Finally, there is a fourth class of members, the professional students of the science of education. The number of such members whose chief work is in the science of education is not large, but the section promises to become a center of influence which will help to increase the number and prestige of such students.

Meetings in past years

The section has listened to two vice-presidential addresses by Commissioner Brown in which he outlined the special work which such a section can undertake and one by Professor Dewey in which he discussed the relation of science to education. A notable symposium was held in 1908 on the problems of modern college organization, and at the last meeting during the closing days of 1909 sessions were held where much significant material was presented looking toward the formulation of a science of education.

Report of Committee on Colleges

One of the features of the last meeting was the report of a committee on the sizes of classes in colleges and on the election of courses by college students. This committee had gathered some material from colleges and universities of various grades. The variation in the size of classes was set forth in detail and attention was called to the lack of principle in determining the distribution of the time and energy of instructors. Special attention was called to the necessity of modifying the rating of courses in view of the possibility of individual attention to the students. A course in which there are only six students evidently provides very much more instruction per student than one which includes two hundred, while in esti-

mating an instructor's work the course of six means less work by far. The committee also presented tables showing the amount of concentration and dissipation of interest in the election of courses by students in various colleges. The results here showed many remnants of the old required course and indicated also the tendency of students to take advantage of any opportunity to elect courses preparatory to professional schools.

Tables Suggested for General Use

More important than the results presented by the committee was the suggestion that colleges be induced to prepare such material in tables which shall facilitate the comparison of many institutions. Professor Thorndike prepared, as chairman of the committee, sample tables which if adopted in presidents' reports would render very easy elaborate studies of problems touched on in the report.

Methods for Other Investigations

Other significant matters were brought forward. Without attempting to give the details of these other reports, it may be said in general that the section stands for exact and definite information as distinguished from mere opinions in matters of education. The collection of such definite information necessitates the critical discussion of methods and the careful sifting of results. Whenever a report of scientific work in this field is presented it contributes to the common stock, not merely new information, but additional methods. Those who are looking into the future of education will be more grateful for these methods than for the immediate results.

Section L as a Center for the Science of Education

The purpose of this discussion is to call attention once more to the strong movement now tending in the direction of a science of education. Section L, like all of the agencies contributing to this movement, found its first support in the other sciences and in the interests of those who contributed indirectly to the science of education. Here, as elsewhere, however, as the subject was given some attention its importance and its right to independent cultivation became apparent and in the brief period of its existence, Section L has demonstrated the vitality of the science of education.

C. H. J.

BOOK REVIEWS

How to Study and Teaching How to Study. By F. M. McMURRY. Boston: Houghton Mifflin Co., 1909. viii+324. $1.25 net.

It seems to the reviewer that this book is one of the most suggestive and useful that has come from the pen of this author. In justification of his inquiry, he states in the beginning that there is much uncertainty in the minds of most students and even of most teachers as to what one should do who proposes to study a lesson effectively. The naïve view seems to be that study should consist in memorizing some set assignment of text. At least there is little recognition of the necessity of appreciating clearly the problem of the lesson and of definite reflection upon it.

It is refreshing to find the author frankly espousing the dynamic conception of learning, in which motive, purpose, and problem are vital factors as over against mere absorption of ready made information. In line with this conception he points out as the fundamental prerequisite of study the provision of some specific purpose or problem as the starting-point for the study of each lesson. Then follow in order the discussion of how the one who studies must supplement the thought of the author, must be prepared to organize the material he faces from the point of view of his problem, and, furthermore, judge of the relative worth of the data and of the interpretations of them which the books studied present. Memorizing also has a place in study, but is only fifth in rank. We may remark that while the discussion of this phase is suggestive it is hardly up to date on the psychological side, the presentation not differing materially from that of James's *Principles of Psychology.*

The author next discusses the use of ideas as the sixth factor in study, making a strong plea for the legitimacy of practical aims in education generally as well as for the necessity of using in some form or other the specific acquisitions of daily study. The need of assuming a tentative rather than a fixed attitude toward knowledge is next discussed, and last but not least the importance of maintaining one's own individuality in one's study is forcefully presented. First and last, proper study must help the person find himself, help him build up a more definite personality. The subordination of the self of the pupil required by many school practices does not conduce to this most needful of all growths.

In the discussion of each topic the author first treats the problem in its general aspects, then by illustration and suggestion he shows that children have the ability to react along the line under discussion, and last of all he gives practical hints for teaching children to react in these various ways in their actual study of school lessons.

The last chapter, on "The Full Meaning of Study: The Relation of Study to Children and to the School," is full of practical suggestion.

On the whole, the book is a valuable contribution to our literature of elementary pedagogy, and even advanced students will not find it without

suggestiveness. If any criticism were to be passed upon it, it would probably be that it is expanded beyond any real need for even the elementary student. Some of the discussions are almost interminable. This lack of condensation is however remedied in some measure by the full marginal analysis of the subject-matter of each paragraph.

IRVING KING

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The Psychology of Thinking. By IRVING ELGAR MILLER. New York: Macmillan, 1909. Pp. xxv+303. $1.25 net.

The biological view of thinking and its significance for education is here presented for the lay reader and beginning student in psychology much more clearly than in any general introductory text. Heretofore the student has been obliged to pick out the functional view piecemeal, as from Angell's text, or to be content with brief statements or occasional applications, as in Thorndike's *Elements* and Judd's *Psychology*. Dr. Miller's book, however, will not take the place of an introductory text. It attempts to cover only those mental processes directly involved in thinking. Neither does it pretend to be an exhaustive treatment of the thought-process such as an advanced student would expect in a psychology of logic. Its mission is rather to make the organic nature of thought plain in non-technical language and to show what advantage this interpretation has for solving the problems of life. Instructors in psychology in normal schools and colleges will, therefore find this an exceptionally valuable supplementary text. Dr. Miller has himself used the substance of the book in his courses at the Milwaukee Normal School and in a summer course in the School of Education of the University of Chicago.

The "seed thoughts" of Dewey, to which the author acknowledges his indebtedness, form the basis for the book. Thought is set forth as an organic process arising under specific needs for adjustment. As preliminary to the study of thinking, the author sets forth the general biological point of view and compares the unconscious with the conscious modes of adjustment. He then takes up imagination, conception, judgment, and inductive and deductive reasoning, entirely from the functional standpoint. That each of these processes shows an identity of function while there is a growing perfection of its technique is one of the central ideas of his treatment. The same process can be recognized in the building-up of vague unreflective concepts as in the explicit clearly conscious construction of logical concepts. The image, the concept, and the judgment become the tools of thought in fully conscious thinking. Induction is regarded as a process of refining the tools of thought, while deduction is manifested in the use of these tools.

In pointing out the inadequacy of the older and formal descriptions of conception and reasoning Dr. Miller helps the student to understand the difference between a structural analysis of the products of the thought-process and the description of those processes as they actually occur under the vital demands for adjustment. In conception, for example, one does not start with given images

to select all their common points, but one begins with a vague notion which has to be refined to meet a new situation, and the particular situation determines in what direction the refinement will be made, i. e., what memory images will be given and what characteristics selected for comparison. In similar manner the traditional accounts of induction and deduction as processes of going from particulars to the general or from the general to particulars are fundamentally incomplete, since they fail to indicate the demands out of which these processes arise or to show the use which is made of the products of these processes in the general adjustment. Dr. Miller recognizes that the fundamental problem of a functional psychology is to distinguish the different needs out of which the various processes arise. In the opinion of the reviewer the *Psychology of Thinking* succeeds better than any general text we have in psychology in setting forth the special functions of the different thought-processes. Functional psychology is probably still too young to have developed any fixed habits of expressing these distinctions. Meanwhile the beginner will bless this book for having given him a clear description and splendid illustrations of these various processes at work.

The "strong pedagogical bias" with which the book is written manifests itself in the illustrations and in several chapters where broad applications of the organic view of the mind are made to the problems of education. The author shows in a telling way the danger of methods which attempt to train only one mental faculty, such as observation or reasoning. The mutual dependence of organic processes makes such attempts questionable. When one understands how concepts develop one realizes how the symbolic activity of the mind if it is not accompanied by the process of concrete imagination may cause reading, for example, to become a "juggling with symbols." Thinking, therefore, to be vital, requires that material for thought be gained in laboratories, by excursions, etc., and that the opportunity be given to apply the thoughts in situations which are real or at least appreciated by the child. Moral and religious tenets fail to function because they are not developed by the child but are given ready-made. Manual training is of advantage primarily because it offers suitable situations to arouse the child's thought and the opportunity to use at once its refined ideas. These and many other applications give the reader the chance to test the advantage of this biological conception of consciousness which the author is teaching.

It is a pleasure also to have the process of evolution so stated as to allow for the mental contribution in that process. Biologists are too prone to state evolution, with Spencer, as a process of adaptation of man to his environment. With consciousness, man's control over his environment is markedly increased, and higher moral and intellectual elements are introduced into the process, so that it becomes in part an adjustment to man's ideals. Dr. Miller brings out this point, but with too little emphasis, it seems to the reviewer, on the importance of the introduction of valuation into the process. There is enough, however, to indicate the advantage of studying biology from the psychological point of view. Evolution is elevated to its higher terms rather than reduced to its lower material terms.

J. B. MINER

UNIVERSITY OF MINNESOTA

Impressions of American Education in 1908. By SARA A. BURSTALL. New York: Longmans, Green & Co., 1909. Pp. 329.

The author, who is head mistress of the Manchester, England, high school for girls, has twice visited the United States for the purpose of educational study, once in 1893 as a Gilchrist traveling scholar, and again in the winter of 1907–8, for the purpose of discovering a "solution to English problems of administration and teaching." Several weeks were spent in visiting typical schools and universities in the cities of the East and Middle West. The questions dealt with in the various chapters are such as would interest one who, like the author, is a college woman, the head of a large high school for girls, a teacher of history, and a member of a city school board.

In the chapter on high schools the author gives a brief résumé of the evolution of American secondary education. She is impressed by the fine, sometimes magnificent, buildings and the excellence of the heating and ventilation; the laboratories she finds not so good as in English schools, but the gymnasia much better. The good discipline of American schools strikes the author as it has all English observers. The girls seem to be neater and to carry themselves better than English girls of the same age; the boys to be less noisy, with a more intellectual type of countenance. The teachers take less part in the games and other social activities than in English schools. To this fact is traced the origin of the secret fraternities and sororities in our high schools.

The statement that "the thirty-five or so true American colleges and universities are on the same plane as those of the old world" may cause surprise to some English readers. She divides the higher institutions into three groups: the colonial colleges of the East, modeled on the English type, the state universities of the West, and the separate colleges for women. The magnificent buildings and grounds of American universities she regards "by far the most splendid and inspiring sights the country has to show." The elective system and various methods of admission to college are discussed at some length. The standard for admission into the best colleges she regards as at least as high as the ordinary matriculation standard in England, in some cases much higher. The system of "accrediting" schools she cites as an instance of American inventiveness which, "while like the sewing machine and the typewriter it brings in new difficulties of its own, has simplified toil, relieved strain, and increased the output." While refraining from expressing an unqualified opinion as to the value of the certificate system if applied in England, she recommends it to the English people as worthy of careful consideration. Considerable time was spent by the author at the University of Wisconsin, which she regards as better worthy of study by English people than any other of our universities.

The chapters on method and on the teaching of history are interesting. The difference in class method is indicated by the use of our word "recitation" for what the English call "lesson." Our method she criticizes as (1) involving a probable waste of time, (2) very dull and slow, (3) giving the teacher too little share in the exercise. The merits of the system are recognized: (1) that the pupil works for himself and does not depend on the teacher, (2) that a spirit of co-operation among the pupils is developed. The

writer was fortunate enough to see some work which convinced her that at its best the recitation method and the English oral method are almost identical in effect. She declares that she "heard finer history teaching in more than one American institution than she ever heard in England."

The principle that education in America is in a more advanced stage of evolution than in England is nowhere more marked than in the field of home economics. In the two countries the movement has developed differently: In England it has affected chiefly the primary and technical schools; in America, chiefly the secondary schools and coeducational universities. In the application of art to the home the author finds ground for her statement that "America is rapidly becoming, so far as her women are concerned, an artistic nation."

As regards commercial education the author concludes that England has much to learn from us as to methods of teaching, organization of courses, and equipment; the most valuable lesson, however, is in the fact that this education is given, contrary to England's practice, to those who have already a good general education. The movement for industrial education she observed to be the most outstanding feature of our educational life.

In the concluding chapter the author gives a summary of what she regards as best in both systems: In England (1) the simple religious education in all types of public schools, (2) the greater freedom and variety in the schools, (3) the better administrative positions held by women, whether as heads of institutions or members of boards or committees; in America, (1) certain definite ways of action both as regards equipment and methods of organization, (2) certain excellences of spirit. America has brought about the liberalization both of elementary and technical education. In university education there is "a deep distinctive purpose which makes nations act that is much to the advantage of America." The author places the great superiority of our education in the intensity and force of our belief in education. "We have very fine educational machinery," she says, in speaking of her own country, "better in some ways than that of America; but we have neither the stream nor the current to drive it; we have to turn the cranks by hand, we educators, to generate the force, such as it is, ourselves."

Miss Burstall is a keen observer, who in a whirlwind trip quite worthy of the typical American abroad visited many schools in many cities, and has given to her English readers an interesting, discriminating account, most generous toward us, of what she saw and the lessons which she feels that her countrymen may learn from an observation of the excellences and defects of American schools.

FRANKLIN W. JOHNSON

THE UNIVERSITY HIGH SCHOOL
THE UNIVERSITY OF CHICAGO

Economics: Briefer Course. By HENRY ROGERS SEAGER. New York: Henry Holt & Co., 1909. Pp. xii+476. $1.75.

Through in part rewritten, the *Briefer Course* is in the main taken from the former and larger work, the *Introduction to Economics.* The chapters on economic history and on finance are wholly omitted. The preface states that the book is intended primarily for professional and technical schools. In view

of the fact that for most students in these schools the subject is limited to one course it is difficult to understand the principle of selection that gives two chapters (46 pages) to the labor question and yet attempts no treatment of the fundamentals of taxation. Questions of political and economic reform have often been, and will doubtless continue to be, questions of taxation. Should not even an elementary course in economics give instruction in the principles of so important a subject?

It is not true, as stated on p. 434, that Henry George gave the name "Single Tax" to his plan for the governmental appropriation of land rents. This seems to have been due to Thomas G. Shearman and to date from 1887, seven years after the publication of *Progress and Poverty* (See Henry George, Jr.'s *Life of Henry George*, p. 496 n.). Professor Seager is doubtless equally incorrect in saying that the validity of George's contention for the so-called "single tax" depends on the correctness of the "law which associates poverty with progress and increases want with advancing wealth."

No diagrams are given to illustrate total, surplus, and marginal utility. One wonders whether this omission was merely to save space, or whether it indicates a waning confidence in the value and validity of this method.

There is probably no better textbook for a guide in a short course in economics. Specially admirable are the discussions of monopolies, of the advantages and disadvantages of the corporation form of business, and of education as a factor in the efficiency of labor. The recognition of possession utility as co-ordinate with utilities of time, place, and form is not only logical but helpful in explaining the productive work of the exchanging class.

EDGAR H. JOHNSON

THE UNIVERSITY OF CHICAGO

Sexualethik und Sexualpädagogik. Eine neue Begründung alter Wahrheiten. Von FR. W. FOERSTER. Kempten und München: Jos. Kösel'sche Buchhandlung, 1909. Pp. 236.

In many schools visited recently in the countries bordering on Switzerland I found the work on moral education by Dr. Foerster (Privatdozent in the University of Zurich) accounted a valuable aid in improving school conditions and relations. This book was entitled *Jugendlehre; ein Buch für Eltern, Lehrer und Geistliche.* Later have appeared *Schule und Charakter: Beitrage zur Pädagogik des Gehorsams und zur Reform der Schuldisziplin; Christentum und Klassenkampf; Lebenskunde: ein Buch für Knaben und Mädchen; Lebensführung: ein Buch für junge Menschen.* The present volume ought not to be taken apart from the others, for the series gives expression to a system of social education through the right formation of individual character. The author is one of the ablest men at work upon the problem, and there is perhaps no other so complete statement of moral instruction.

Those who oppose the treatment of education with reference to sex as a thing apart welcome any method which shows a larger comprehension, whether this greater inclusion be from the standpoint of social relationships or of individual hygiene. German and French educational periodicals contain many articles

on this subject; the January number of *Der Säemann* (Berlin) had references to more than thirty titles, all of which had appeared since 1991. Even America, in Dr. C. R. Henderson's *Education with Reference to Sex* (The University of Chicago Press), has, at last, an extensive and helpful discussion. Yet in the best set of works upon hygiene that has yet appeared ("Gulick Hygiene Series," Ginn and Co.) the subject is not referred to.

Dr. Foerster lays stress upon the training of the will and recognizes that reason or intelligence has a large part in accomplishing the end. There is a danger in the study of sex matters of confining attention too much to such thoughts, but this is avoided if weakness of will is skilfully struggled against. Character-building must always be emphasized. Work in the gymnasium or in the home is valuable because it affords mental control of physical activities. The emotional and motor centers are strong and must be recognized and brought under control.

The pedagogy of sex goes back to the ethics of sex. The author opposes the modern ethics of Ellen Key, for instance, and declares for the so-called old ethics, forbidding all sex relations outside of marriage. As the common people cannot be controlled by their own insight and resolution, there must be a supreme authority in the ethical field. This is religion, which is the greatest sex pedagogical power. A review in *Die Deutsche Schule* for March, 1909, compares Foerster's position with that of Dr. Siebert, who holds that strong discipline of the will is of greater significance than teaching but does not consider that the sanction of religion is necessary.

Dr. Foerster is a notable example of reactionary tendencies in a man well acquainted with modern movements. In religion he has passed from sympathy with the Ethical Culture Society to the borders of Rome. In philosophy he is strongly idealistic and feels the struggle of the lower with the higher nature as a dualistic issue. His writings are valuable not only for their positive content but also as suggestions of some of the logical implications of certain conservative tendencies.

English Children in the Olden Time. By ELIZABETH GODFREY. New York: E. P. Dutton & Co. 1907. Pp. xvii+336. $3.00 net.

This is a book belonging to a class much needed. It is full of concrete material and yet shows a movement. For students in history at any age from the grammar school up it will be helpful and the student of the history of education and the teacher will find it very suggestive. There is a good index. Some of its items refer to school subjects, games, customs, etc. There are numbers of references to dancing, discipline, Latin (15), needlework, pets, rod (9), etc.

Among the more suggestive chapters for school workers are "Babies in Bygone Days," "The Church and the Children," "Toys and Games" "Nurture in Kings' Courts," "Children in Shakespeare's Plays," "Concerning Pedagogues," "The Golden Age" (century followng the end of the Wars of the Roses), "Pleasant Pastimes," "Under a Cloud" (Puritanism), "Educational Theories," "The Genteel Academy and the Dame School," "The Superior Parent," "Transition" (early nineteenth century). The book will naturally be compared with those written by Alice Morse Earle. It is fully as interesting in style and rather more definite as to organization showing development. Its greatest use will be in

thus giving us English history from the standpoint of the child and in bringing into consciousness much material relating to home and school life by no means as yet found on record as much as it deserves.

The writer not only shows a wide acquaintance with the standard works on social life, but also refers to a large number of little-known but suggestive works, especially on school life, of the eighteenth and nineteenth centuries. There are thirty-two illustrations well selected to show what has been preserved for us of this child life by painters.

FRANK A. MANNY

KALAMAZOO, MICH.

History of Common-School Education. By LEWIS F. ANDERSON. New York: Henry Holt & Co., 1909. Pp. 308. $1.25.

English works which treat in a scholarly manner of the development of educational thought and procedure are comparatively rare. Hence Anderson's *History of Common-School Education* is not hampered by entering into competition with a large number of other texts for favor in the educational world. Beyond the English version of Compayré, the illuminating but brief discussion of Davidson, and the scholarly work of Monroe, it has few able competitors. Yet it is highly questionable whether Anderson's book is a satisfactory substitute for any of these as the accepted textbook in either normal school or college. The author states in the Preface that his work "aims to give as clearly, concisely, and concretely as possible, such information regarding the history and development of the common or non-professional school as will most aid teachers and others to an intelligent understanding of the common school of today, its nature and functions, its relation to other institutions, educational and otherwise." How, then, has the writer sought to achieve his purpose?

A survey of the book discloses the rather striking fact that 102 pages, a little more than one-third of the work, are devoted to the relatively sterile period of the Middle Ages, while to the Greek era, pregnant with thought and suggestion, are accorded only 35 pages. Rome receives as much attention as Greece, while the Renaissance and the Reformation together with the history of the development of the continental classical schools of the seventeenth century are crowded into nineteen pages! Quite as striking is the fact that the age of the enlightenment, that marvelous period of intellectual and emotional re-awakening which has molded our modern modes of thinking in a hundred ways, is grudgingly conceded little more than two pages, with no hint of the mighty revolution in thought effected by Voltaire and the encyclopedists! The explanation of this rather unusual distribution of emphasis lies, apparently, in the fact that the author is more genuinely interested in details of schoolroom method and subject-matter than in the growth and progress of those human attitudes and ideas, grounded in changing economic and social conditions, that underlie the development of any institution such as the common school.

By far the best section of the book both in organization and subject-matter is that dealing with the Middle Ages. It would seem that the author has concentrated most of his scholarship upon this period. Unfortunately, however, there is a suggestion of dry pedantry in the detailed descriptions of certain

mediaeval reading-books such as the *Disticha de Moribus Catonis* and the *Eclogue* of Theodulus. Would such analyses of dead-and-goñe texts long remain with the average student of educational history? Are they not rather of interest and value only to the specialist?

The author has seen fit to depart from the usual custom of emphasizing the development of education in Germany in order to lay stress upon the growth of English schools, and their influence upon the colonial schools of America. This is well done, since the American student of education frequently gets an inadequate notion of the course of development of his own country's schools, while he can discourse glibly of German educational history. But should this latter subject have been so slightly treated as in Mr. Anderson's book? The highly condensed discussions of the work of the German educational reformers can hardly be regarded as a satisfactory treatment of the splendid achievements of Germany in the field of education.

The quotations in Mr. Anderson's book are in almost every instance aptly chosen and really enlightening. But no reference is made by the writer to the literary importance or to the significant writings of any of the authors cited. This is manifestly a serious flaw, especially as no reference readings whatever are recommended.

The style of the book is clear and readable, and the discussion of mediaeval, English, and American schools is interesting and adequate. But the work is incomplete in its treatment of important phases of educational history. It lacks in some degree the prime requisites of any historical study whatsoever—a clear portrayal of the origin of significant thought-movements in social conditions, and a convincing presentation of the great fact of historical continuity.

WILLYSTINE GOODSELL

TEACHERS COLLEGE
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Spanish Tales for Beginners. Edited with Notes and Vocabulary by ELIJAH CLARENCE HILLS. New York: Henry Holt & Co., 1909. Pp. v+298.

Unfortunately for the teachers of Spanish in this country, and more particularly for those engaged in the teaching of Spanish in the secondary schools, the appearance of a good compilation or collection of Spanish tales for beginners occurs only too seldom. The information that there has just appeared from the press a new collection of short Spanish stories, selected from among the works of the best-known Spanish writers of the past sixty years, is sure to cause pleasure and satisfaction.

The main purpose of this well-chosen collection may be stated best in the words of the author, who says that in the compilation of these tales he has kept three objects in view: namely, (1) "that they be good literature," (2) "that they portray modern Spanish life," and (3) "that they be interesting and not too difficult in language and thought." A few of the best known of the authors whom he has chosen are here mentioned: José Echegaray, Antonio de Trueba, Maria del Pilar Sinués, Manuela de la Peña Cuéllar, Enrique Pérez Escrich, Ernesto García Ladevese, Armando Palacio Valdés, Luis Taboada, Emilia

Pardo Bazán, Pedro Antonio de Alarcón, Julia de Asensi, Narciso Campillo, Fernán Caballero and Gustavo Adolfo Pécquer.

In addition to these prose selections the author has given us a number of short lyric poems, most of which are suitable for memorizing. He has made selections from the fables of Iriate and from those of Samaniego, Felipe Pérez y González, Juan Eugenio Hartzenbusch, Juan Antonio Cavestany, Antonio de Trueba, Fernán Caballero, José Zorilla, Gaspar Núñez de Arce, and Gustavo Adolfo Péquer. Excellent notes with a few rules concerning Spanish prosody accompany these selections of poems, and should enable the pupil to grasp intelligently the salient points of what is ordinarily a dry and difficult subject. A short biographical and literary summary accompanies each set of notes to the selections from the various authors. A map of Spain in the front of the book adds still more to its usefulness. On the whole, those who teach Spanish are to be congratulated that there has been put into their hands a book with which much can be accomplished.

The reviewer feels impelled to make one suggestion, and that is that there might have been added to the notes sets of questions based upon the stories read, for the purpose of conversational exercises.

WILLIAM W. HALL

YEATMAN HIGH SCHOOL
ST. LOUIS, MISSOURI

Practical Exercises in Physical Geography. Atlas for Practical Exercises in Physical Geography. By WILLIAM MORRIS DAVIS. Boston: Ginn & Co., 1908. Pp. xi+148, and pp. 50, with 45 plates.

The object of the text and the accompanying atlas is to provide in as compact a form as possible a series of disciplinary exercises which may be assigned as laboratory work in connection with any of the modern textbooks in physical geography.

A careful examination of the two volumes convinces the reader that their preparation was, as the author states, a long and difficult task; but the result justifies the labor. Viewed as a scientific presentation of great physiographic problems, the work of Professor Davis cannot be praised too highly. The mere manual labor involved in the preparation of so illuminating and detailed diagrams would be enough to drive to despair anyone less skilled in representing the physiographic features of large areas. The judgment shown in selecting the important features and in omitting non-essential details commands unqualified admiration.

In two particulars, however, the books are open to criticism. First, the amount of space (114 out of a total of 144 pages) given to the discussion of land forms is disproportionately great. Second, those portions of contour maps selected for the illustration of physiographic forms are too small to be effective, and in a few cases the value of these maps is further reduced by an increase of the contour interval and the consequent omission of many contour lines. The Harrisburg sheet, which in the original form is very impressive to young students, loses its effect when drawn with an increased contour interval.

One cannot but feel that Professor Davis is mistaken in believing that the exercises of the text and atlas are adapted to young students of physical geography. The elaborate drawings and the exercises based upon them will be to the ordinary high-school student a series of puzzles to be worked out with care and patience. Perhaps, owing to the detailed and specific instructions, the student will complete the drawings correctly, but it is doubtful whether he will translate these complex drawings into terms of out-of-doors. The book seems better adapted to the college student who has done field-work and who is therefore able to see in these block drawings the real land forms which they represent.

The author, like most university textbook writers, has overestimated the ability of high-school pupils. Nevertheless his book is by far the best physiography laboratory manual yet published.

JANE PERRY COOK

THE CHICAGO NORMAL SCHOOL

Didaktische Ketzereien. Von H. GAUDIG. Leipzig: Teubner, 1909. 2. Auflage. Pp. 134. M. 2.

Didaktische Präludien. Von H. GAUDIG. Leipzig, Teubner, 1909. Pp. 272. M. 3.60.

The director of the Leipzig Seminary for Female Teachers offers in these Didactic Heresies and Preludes a singular and stimulating body of educational opinion. Free from conventionalities, he touches, in apparently disconnected comments, on many of the burning questions of pedagogic theory and practice; but there is manifest throughout a spritual bond that reveals a system, a definite attitude in matters educational. It centers in the demand that the teachers shall strive for the self-activity of the pupils—that is to be the pivotal consideration which determines the ideal of all educational effort; it is to govern the choice of subject-matter, the construction of the plan of studies, the elaboration of the teaching method. Its logical development will emancipate the young teacher from slavish adherence to the formulas of a narrowing pedagogic creed. To substitute for the rigidity of the Herbartian doctrine the flexibility of a truly human relation between teacher and pupil, to substitute the rational individualism of the sympathetic teacher for the fetters of a traditional doctrine, is Gaudig's primary aim (*Präludien,* pp. 1–13). The very titles of his topical paragraphs convey the burden of his message to young teachers: "To Question Intelligence to Death," "Incessant Questioning Brutal," "The Pupil's Question a Legitimate Factor in Education"—these and similar sections (*Präludien,* p. 16) point to the danger that has developed in German and other schools from an over-emphasis of the interrogatory method. "Psychology not a Subject, but a Principle of Instruction" pronounces a verdict of condemnation on much that underlies the present-day treatment through the agency of manuals of psychology. There is something truly refreshing in his comments on the by-products of teaching; he contrasts with them the mechanical conformity that laboriously evolves a progressive exposition of mental phenomena.

It is not the immediate results to be gathered from a textbook that appeal

to him; he seeks the stimulus that calls into being a genuine love for information; the sharp distinction which he notes between the reading of and for the school and private reading for intellectual enjoyment we Americans also recognize, but do not always strive to obliterate. One of the strongest features of the modern German School is its pronounced success in developing fluent, forceful *expression* under the careful guidance of the teacher; the Germans in their conscious attention to this need now rival the efforts of the French, whose high attainments in public oratory and in literary expression are in no small degree fostered by the systematic training in expression that the schools furnish; Gaudig, like Lehmann, Lyon, and other prominent teachers of their vernacular, insists that *oral* composition, through which the ready command of effective language to incorporate thought becomes dominant, must receive specific consideration quite apart from written composition, in which the clear exposition of thought is in the foreground, language being merely the tool employed (*Ketzereien,* pp. 44, 45). Granted, that the adolescent's self-consciousness makes for reticence, for hesitation in utterance, it is the teacher's business to overcome systematically this reluctance, not to accept it, as we often do, as the inevitable.

Those who still retain their belief in the virtue of undirected, wasteful home-preparation, without previous direction in and with the class, who fear the loss of initiative from skilful class-preparation, but have never witnessed a genuine class lesson, with the entire class in active co-operation, would do well to read Gaudig's estimate of class- and home-work (*Ketzereien,* pp. 52, 53). The indiscriminating advocates of coeducation for every period of school life might also find some food for reflection in Gaudig's estimate of the characteristic differences that boys and girls reveal in various subjects; let them remember that those who oppose co-education are in most cases particularly sympathetic to the specific excellencies of girls; have in fact reached their conclusions in a long and devoted service to the education of girls (*Präludien,* p. 109).

Such topics as co-ordination of work which makes for economy in teaching (*Präludien,* pp. 50 ff.) stand in close relation to the maintenance of a type of girls' school aiming to promote what is most worthy of development for the great body of female pupils.

In view of the recent Prussian legislation on higher girls' schools, which has created at least one type that closely parallels the secondary schools for boys, Gaudig's words of caution are noteworthy (*Präludien,* p. 109); if personality is to unfold its full strength, it must not proceed with a brutal asceticism against its own nature, must not trample under foot its physical and psychical peculiarities; hence the exact duplication of the organization of the boys' schools must be avoided; we need, he says, a school whose aim, selection of subject-matter, plan of instruction, and *method* of instruction, whose length of school sessions and of intermissions shall do justice in the main, and in every detail, to the psycho-physical nature of girls.

One might continue quoting abundantly from this storehouse of a great teacher's matured experience; the suggestions offered should suffice to tempt the student of German educational literature to a deliberate consideration of

its wisdom. For Gaudig ranks with the most significant figures among the philosophic educators of the present, as his contribution to the great *Allgemeine Geschichte der Kultur der Gegenwart* indicates.

What an inspiration to intending teachers such talks, replete with the technical knowledge and broad literary culture of a man of university attainments, must be!

JULIUS SACHS

TEACHERS COLLEGE
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Modern Educators and their Ideals. By TADASU MISAWA. New York: D. Appleton & Co., 1909. Pp. vi+304. $1.25.

This book fulfils its avowed purpose of furnishing a sympathetic rendering, through excerpts from the originals and amplifications on the part of the author, of the fundamental educational theories and tenets of the writings of the modern beacon lights in pedagogy: Comenius, Locke, Rousseau, Kant, Basedow, Pestalozzi, Fichte, Froebel, Herbart, Spencer, Hegel, Harris, and Hall. An introductory chapter gives a brief summary of Greek and Roman education, and of the educational influences of Christianity, the Reformation, Asceticism, Humanism, and the Renaissance. The book is supplied with an excellent index and judiciously selected bibliographies. The foreign references of the latter are especially valuable.

The treatment of the various writers is of unequal merit. The author does not, for example, do full justice to the "method" or the "principles of nature" of Comenius. Among the best treatments are those of Rousseau, Froebel, Herbart, Fichte, Hegel, and Hall. The author is to be congratulated upon his inclusion of Fichte and Hegel, whose preponderant philosophical activities have been allowed almost entirely to obliterate the impression which their educational writings produced upon the contemporary educational thought and practice, or upon the educational ideals of our own day (witness, e. g., Hegel's influence upon the writings of Harris). The author has succeeded admirably in making the opposing ideals of the various writers stand out in bold relief: e. g., those of Spencer and Rousseau, as contrasted with Hegel and Harris. The contrasts, while at times somewhat strained, are often very suggestive: "If Comenius gave us the universal school in form, Pestalozzi put the soul into it. Locke was the pedagogue of the gentleman, Basedow of the bourgeois. But Pestalozzi was 'a people's pedagoguge, a people's prophet'" (p. 139). "While Rousseau wanted to build a new society on the basis of his new *natural man*, who is to be educated solely through the nature of his individual self, and Pestalozzi of his new *home man*, who shall essentially grow up in and through the normal home, for Fichte, the foundation of the new nation rested on the new *social man*, who is trained in, through, and to an ideal social life" (p. 159; see also p. 194). The style of the book is attractive, and the proofreading has been done with commendable care. It is a book that can be heartily recommended to the lay reader, teachers' reading-circles, and courses conducted by county superintendents. While the professional teacher of education will find little in the book with which he is not already

familiar, its reading will serve to refresh him on much that may have passed into Lethean oblivion.

With respect to its adaptability as a textbook in the history of modern education, the book has certain weaknesses: its lack of marginal notes or topical headings, of concrete illustrations, of sufficient criticism, and of pointed summaries of what we may still consider good educational practice in the various authors' writings and of what is questionable or obsolete. The frequent quoting of excerpts tends at times to render the treatment somewhat vague and diffuse. To satisfy the needs of the American teacher it would seem, too, that a chapter should have been devoted to the rise and development of the elementary school in the United States (and to the labors of such American leaders as Mann, Barnard, and Page)—a chapter which might not have been entirely consonant with the plan of the book, but which would have supplied information with which all prospective teachers in our own schools should be conversant.

J. E. WALLACE WALLIN

CLEVELAND NORMAL TRAINING SCHOOL

The Century of the Child. By ELLEN KEY. New York: G. P. Putnam's Sons, 1909. Pp. 339.

This is a vigorously written book by one who has the intellect of a man and the heart of a woman and advanced ideas on all subjects. She believes that in the coming century all social, moral, and educational questions will be settled largely in accordance with considerations of the effects upon the welfare of children. The first chapter on "The Right of the Child to Choose His Parents," emphasizes the importance of the child being born of healthy parents who love each other regardless of whether they are married, in the present legal meaning of the word.

In the second chapter, on "The Unborn Race and Woman's Work," a very searching criticism of woman suffragists is given. She believes that woman should have the privilege of engaging in all activities that men do, but that it is very unfortunate for her and still more unfortunate for the unborn race if it is not recognized that her own nature gives her a special function in society and that the preparation for motherhood, in the case of those who expect to be mothers, should be regarded as of first importance.

The third chapter, on "Education," severely criticizes present methods of child-training in the home and condemns especially corporal punishment after three years of age, as totally unsuited to a creature possessing the nature of a human being. There are, also, many good positive suggestions regarding the development of the individuality of children.

In the next chapter on "Homelessness," the importance of parents devoting more of their energies to the home life for the good of their children is brought out. In the next chapter on "Soul Murder in the Schools," mass instruction is condemned, not only as ineffective, but as highly injurious to the developing personality of children.

In the chapter on "The School of the Future," suggestions as to what the school should be, are given. Kindergartens are to be abolished and the education

of that period and of the first years of the primary school given in the home. Chap. vii condemns all religious instruction given in schools, and the last chapter discusses the question of child labor.

The book is a stimulating one to read and besides its negative criticisms it presents much of positive value.

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Pestalozzi, sein Leben und seine Ideen. ("Aus Natur und Geisteswelt.") Von P. NATORP. Leipzig: Teubner, 1909. Pp. 134. $0.30.

This book belongs to one of the popular series of handbooks which the Germans know so well how to produce. The work is largely a restatement of the author's earlier writings on the same subject. But while much that is new about Pestalozzi cannot be expected, the arrangement of the present work deserves recommendation. Departing from the common practice of giving an historical and evolutionary treatment of Pestalozzi's work and ideas, the author has devoted the greater part of the book to an examination of the philosophy which underlies all that Pestalozzi did. This philosophy which Pestalozzi strove to express without success starts with nature as the basic element and is reduced by the author to five main principles—self-development, method or psychologization of instruction, *Anschauung,* harmonious development, and socialization of the individual. Perhaps the most important section of the book is the treatment of the last principle together with an interesting exposition of Pestalozzi's ideas on moral and religious training. The last part of the book, that on intellectual training, suffers in some measure from the limitations of space, but room is found for a good presentation of Pestalozzi's views on mathematical instruction and the indebtedness due to him for the movement which he inaugurated in this field. As an introduction to the further study of Pestalozzi—and the aim of this series is to form the starting-points of deeper investigations—the book achieves its object quite satisfactorily.

I. L. KANDEL

TEACHERS COLLEGE
COLUMBIA UNIVERSITY

BOOKS RECEIVED

EDUCATION

The City School District. Statutory Provisions for Organization and Fiscal Affairs. By HARRY ERWIN BARD. ("Teachers College Contributions to Education," No. 28.) New York: Columbia University, 1909. Pp. 118.

Exposition and Illustration in Teaching. By JOHN ADAMS. New York: Macmillan, 1910. Pp. 428. $1.25 net.

Education for Efficiency. By E. DAVENPORT. Boston: D. C. Heath & Co., 1909. Pp. 200. $1.00.

The Principles of Education. By WILLIAM CARL RUEDIGER. Boston: Houghton Mifflin Co., 1910. Pp. xii+305. $1.25 net.

ENGLISH

"Macmillan's Pocket Classics." *English Humorists.* By WILLIAM MAKEPEACE THACKERAY. Edited with an Introduction and Notes by J. C. CASTLEMAN. Pp. xxiv+337. With portrait. *The Oregon Trail. Sketches of Prairie and Rocky-Mountain Life.* By FRANCIS PARKMAN. Edited by CHARLES H. J. DOUGLAS. Pp. xxi+362. With portrait and map. New York: Macmillan, 1910. $0.25 each.

Shakspere's *A Midsummer Night's Dream.* Edited by WILLIAM ALLAN NEILSON. ("The Lake English Classics," edited by LINDSAY TODD DAMON.) Chicago: Scott, Foresman & Co., 1910. Pp. 158.

The Raven. By EDGAR ALLAN POE. *The Courtship of Miles Standish.* By HENRY WADSWORTH LONGFELLOW. *Snow-Bound.* By JOHN GREENLEAF WHITTIER. Edited with an Introduction and Notes by CHARLES ROBERT GASTON. ("Merrill's English Texts.") New York: Charles E. Merrill Co., 1909. Pp. 196. Illustrated.

FRENCH AND GERMAN

"Crowell's Shorter French Texts." General editor, J. E. MANSION. *Quatre contes des mille et une nuits.* Edited by R. DE BLANCHAUD. Pp. viii+56. *La belle au bois dormant.* (Féerie en quatre tableaux.) Par EMMA FISHER. Edited by F. G. HARRIMAN. Pp. x+38. *Waterloo.* (Extrait des *Misérables.*) Par VICTOR HUGO. Edited by R. P. JAGO. Pp. ix+59. With a map. *Le château de la vie.* Par E. LABOULAYE. Edited by R. T. CURRALL. Pp. vi+64. *La farce de Paquin fils.* Par. L. LAILAVOIX. Pp. viii+56. *Contes du petit château: Le petit Ravageot; Mademoiselle Sans-Soin.* Par JEAN MACE. Edited by J. E. MANSION. Pp. xi+84. *Croisilles.* Par A. DE MUSSET. Edited by S. TINDALL. Pp. 64. *Deux comédies enfantines: Le petit chaperon rouge; Jean et Marguerite.* Par M. REICHENBACH, Edited by J. E. MANSION. Pp. vi+56. *Les petites ignorances de la conversation.* By CHARLES ROZAN. Edited by R. DE BLANCHAUD. Pp. xii+56. *Anecdotes sur Napoléon.* Par MARCO DE SAINT-HILAIRE. Edited by A.

AUZAS. Pp. vii+55. *Mon étoile.* Par E. Scribe. Edited by NEIL S. SNODGRASS. Pp. 96. New York: Thomas Y. Crowell & Co.

Michelet's Histoire de France. (Selections.) Edited with Introduction, Notes, and Vocabulary by DOUGLAS LABAREE BUFFUM. New York: Henry Holt & Co., 1909. Pp. xiii+511. With a map.

Common Difficulties in Reading French. By CHARLES C. CLARKE, JR. New York: William R. Jenkins Co., 1910. Pp. iv+147. $1.00.

Mon livre de petites histoires. By AGNES GODFREY GAY. New York: William R. Jenkins Co., 1909. Pp. xii+138. Illustrated by VIRGINIA WRIGHT GARBER. $1.00.

"International Modern Language Series." *Anfang und Ende.* Von PAUL HEYSE. Edited with Introduction, Notes, Exercises, and Vocabulary by A. BUSSE. Pp. viii+119. With portrait. $0.35. *Schillers Jungfrau von Orleans.* Edited with Introduction, Notes, and Vocabulary by PHILIP SCHUYLER ALLEN AND STEVEN TRACY BYINGTON. With frontispiece and map. Pp. xxxv+334. $0.70. Boston: Ginn & Co., 1909.

HISTORY

Stories from Greek History. For children. By LOUISE DIMAN. ("Graded Supplementary Reading Series.") New York: Charles E. Merrill Co., 1909. Pp. 235. With frontispiece.

Pupil's Notebook and Study Outline in Roman History. By EDNA M. MCKINLEY. New York: American Book Co., 1909. Pp. 144. $0.25.

SCIENCE AND MATHEMATICS

Broad Lines in Science Teaching. By F. HODSON. With an Introduction by M. E. SADLER. New York: Macmillan, 1910. Pp. xxxvi+267.

Geographical Essays. By WILLIAM MORRIS DAVIS. Edited by DOUGLAS WILSON JOHNSON. Boston: Ginn & Co., 1909. Pp. vi+777. Illustrated. $2.75.

Nature Study for Lower Grammar Grades. By HORACE H. CUMMINGS. New York: American Book Co., 1909. Pp. viii+208. Illustrated. $0.60.

Exercises in Geometry. By GRACE LAWRENCE EDGETT. Boston: D. C. Heath & Co., 1909. Pp. vi+81.

Plane Trigonometry. By EDWARD R. ROBBINS. New York: American Book Co., 1909. Pp. xiii+153. Illustrated. $0.60.

Plane Geometry Developed by the Syllabus Method. By EUGENE RANDOLPH SMITH. New York: American Book Co., 1909. Pp. 192. $0.75.

MUSIC AND MANUAL TRAINING

Part Songs for Mixed Voices. By JOHN B. SHIRLEY. New York: American Book Co., 1909. Pp. 272. $0.75.

Manual Training for Common Schools. An Organised Course in Wood-Working By ELDRETH G. ALLEN. Edited by FASSETT A. COTTON. New York: Scribner, 1910. Pp. xvii+217. Illustrated.

CURRENT EDUCATIONAL LITERATURE IN THE PERIODICALS[1]

IRENE WARREN
Librarian, School of Education, The University of Chicago

ACHER, E. A. Spontaneous constructions and primitive activities of children analogous to those of primitive man. Amer. Journ. of Psy. 21: 114–50. (Ja. '10.)

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BACHMAN, FRANK P. The school superintendent and his training. Educa. 30:368–73. (Fe. '10.)

BALLIET, THOMAS M. Undergraduate instruction in pedagogy. Educa. 30: 335–43. (Fe. '10.)

BATT, DR. MAX. Library work in Great Britain and Germany. Pub. Lib. 15:51–53. (Fe. '10.)

BENNETT, CHARLES A. Visiting manual training schools in Europe–III. Man. Train. Mag. 11:214–36. (Fe. '10.)

BOUGHTON, ALICE C. Penny luncheons. Psycholog. Clinic. 3:228–31. (Ja. '10.)

BRICKER, G. A. Shall secondary agriculture be taught as a separate science? Educa. 30:352–56. (Fe. '10.)

BRUERE, ROBERT W. The work of the New York association for improving the condition of the poor in saving child life. Pedagog. Sem. 16: 450–56. (D. '09.)

[1] Abbreviations.—Amer. Educa., American Education; Amer. Journ. of Psy., American Journal of Psychology; Cent., Century; Child L., Child Life; Educa., Education; Educa. Bi-mo., Educational Bi-monthly; Educa. R., Educational Review; El. School T., Elementary School Teacher; Good Housekeep., Good Housekeeping; Harp. W., Harper's Weekly; Journ. of Educa. (Bost.), Journal of Education, New England and National; Journ. of Educa. Psychol., Journal of Educational Psychology; Journ. of Geog., Journal of Geography; Liv. Age, Living Age; Lib. Journ., Library Journal; Man. Train. Mag., Manual Training Magazine; New Eng. Mag., New England Magazine; Pedagog. Sem., Pedagogical Seminary; Pop. Educa., Popular Educator; Psycholog. Clinic, Psychological Clinic; Pub. Lib., Public Libraries; School B., School Bulletin; School and Home Educa., School and Home Education; School R., School Review; Sci. Amer. Sup., Scientific American Supplement; Teach. Coll. Rec., Teachers' College Records.

BURNHAM, WILLIAM H. The scientific study of hygiene. Pedagog. Sem. 16:437–41. (D. '09.)

CALDWELL, OTIS W. Natural history in the grades. El. School T. 10: 270–76. (Fe. '10.)

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COOPER, EDWARD H. Children's books. Liv. Age. 46:316–18. (29 Ja. '10.)

CRAWFORD, CAROLINE. The function and development of the arts of movement. Educa. Bi-mo. 4:156–64. (Fe. '10.)

CRONISE, CAROLINE C. The art work of the kindergarten. El. School T. 10:240–47. (Ja. '10.)

DANIELS, JOSEPH M. College athletics and physical education. Educa. R. 39:144–55. (Fe. '10.)

DAVIS, BENJAMIN MARSHALL. Agricultural colleges. El. School T. 10: 277–86. (Fe. '10.)

DAWSON, GEORGE E. A characterization of the prevailing defects in backward children and a method of studying and helping them. Pedagog. Sem. 16:429–36. (D. '09.)

FINDLAY, MARIA E. Froebel's principles and current idealism in England. Child L. 11:231–35. (D. '09.)

FLEISCHMAN, FRANK. A boy prodigy and the fourth dimension. Harp. W. 104:9. (15 Ja. '10.)

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GOLDTHWAIT, JOEL E. The importance of training the growing child in correct postural habits. Pedagog. Sem. 16:455–46. (D. '09.)

GREENWOOD, JAMES M. William Torrey Harris: educator, philosopher, and scholar. Educa. R. 39:121–43. (Fe. '10.)

GREGORY, W. M. Secondary school geography in the middle West. Journ. of Geog. 8:110–16. (Ja. '10.)

GWINN, JOSEPH M. Tendencies in the content of the courses of study in state normal schools. Educa. R. 39:156–64. (Fe. '10.)

HARGER, CHARLES MOREAU. Industrial fellowship in university work. Sci. Amer. Sup. 69:79. (29 Ja. '10.)

HART, HASTINGS H. The care of the dependent child in the family. Pedagog. Sem. 16:464–72. (D. '09.)

HILL, PATTY SMITH. The future of the kindergarten. Teach. Coll. Rec. 10:29–56. (N. '09.)

HOPKINS, ERNEST MARTIN. The critical period for the American college. Educa. R. 39:165–75. (Fe. '10.)

JOHNSTON, W. DAWSON. The library as a reinforcement of the school. Amer. Educa. 13:208–11. (Ja. '10.)

JOHNSTONE, E. R. The welfare of feeble-minded children. Pedagog. Sem. 16:447–49. (D. '09.)

JUDD, CHARLES H. On scientific study of high-school problems. School R. 18:84–98. (Fe. '10.)

KILPATRICK, VAN EVRIE. Department of elementary school problems: emancipating the individual pupil. Educa. 30:375–85. (Fe. '10.)

KIMMINS, C. W. Trade Schools in London. El. School T. 10:209–19. (Ja. '10.)

KIRK, EDWARD C. The dental disabilities of school children. Psycholog. Clinic. 3:217–23. (Ja. '10.)

KNOWLES, A. C. The army signal school. Sci. Amer. Sup. 68:407. (25 D. '09.)

LADD, A. J. The function of the teachers college: II. Educa. 30:344–51. (Fe. '10.)

LINDSAY, SAMUEL MCCUNE. Exploring the new world for children. Pedagog. Sem. 16:459–63. (D. '09.)

MCANDREW. The college influence on public high schools. School B. 36: 89–93. (Ja. '10.)

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NISHIYAMA, SEKIJI. Japanese elementary schools. Educa. 30:364–67. (Fe. '10.)

NOYES, WILLIAM. The ethical values of the manual and domestic arts. Man. Train. Mag. 11:201–13. (Fe. '10.)

NORTHRUP, WILLIAM PERRY. Good and bad air and its effect upon children. Pedagog. Sem. 16:442–44. (D. '09.)

O'SHEA, M. V. On making commands to children effective. Pop. Educa. 27:225–26. (Ja. '10.)

PARKER, S. CHESTER. Our inherited practice in elementary schools. El. School T. 10:228–39. (Ja. '10.)

PYLE, WILLIAM H. The psychological basis of moral training. School and Home Educa. 29:179–87. (Fe. '10.)

REESE, CARA. Chicago's school buildings. Good Housekeep. 50:208–15. (Fe. '10.)

SARGENT, WALTER. The fine and industrial arts in elementary schools, grades II and III. El. School T. 10:220–27. (Ja. '10.)

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THORNDIKE, EDWARD L. The contribution of psychology to education. Journ. of Educa. Psychol. 1:5–12. (Ja. '10.)

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TRACY, S. E. The occupation treatment for sick children. Pedagog. Sem. 16:457–58. (D. '09.)

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WHIPPLE, GUY MONTROSE. The spelling of university students. Journ. of Educa. Psychol. 1:31–33. (Ja. '10.)

WHITE, FRANK MARSHALL. The babies who work. Harp. W. 54:12–13. (8 Ja. '10.)

WILLIAMS, S. HORACE. The educative value of manual training–III. Man. Train. Mag. 11:252–60. (Fe. '10.)

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WINCH, W. H. Some measurements of mental fatigue in adolescent pupils in evening schools. Journ. of Educa. Psychol. 1:13–23. (Ja. '10.)

YOUNG, ELLA FLAGG. The public high school. School R. 18:73–83. (Fe. '10.)